



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

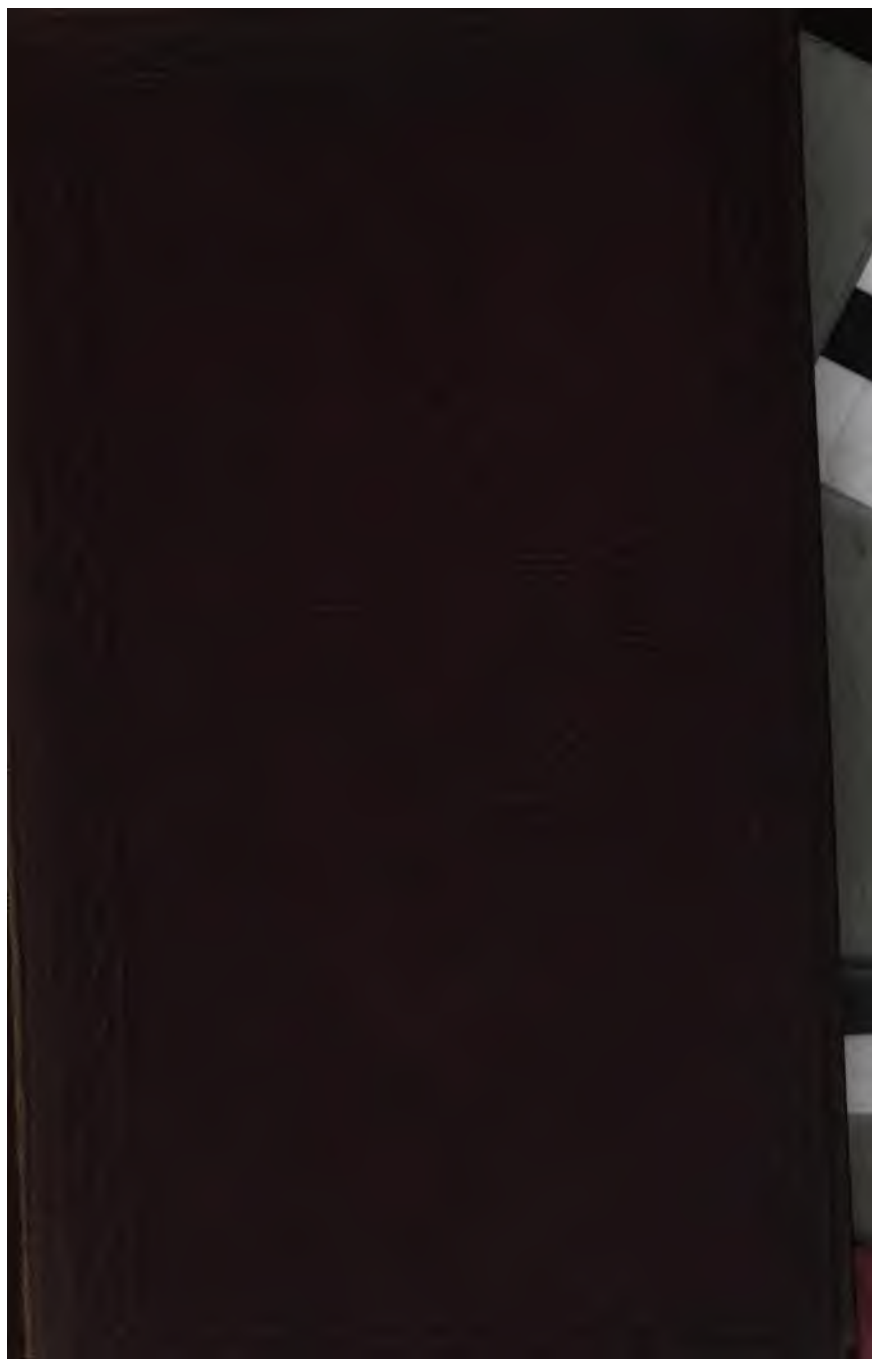
Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

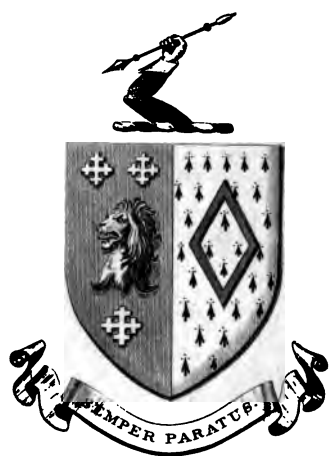
We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

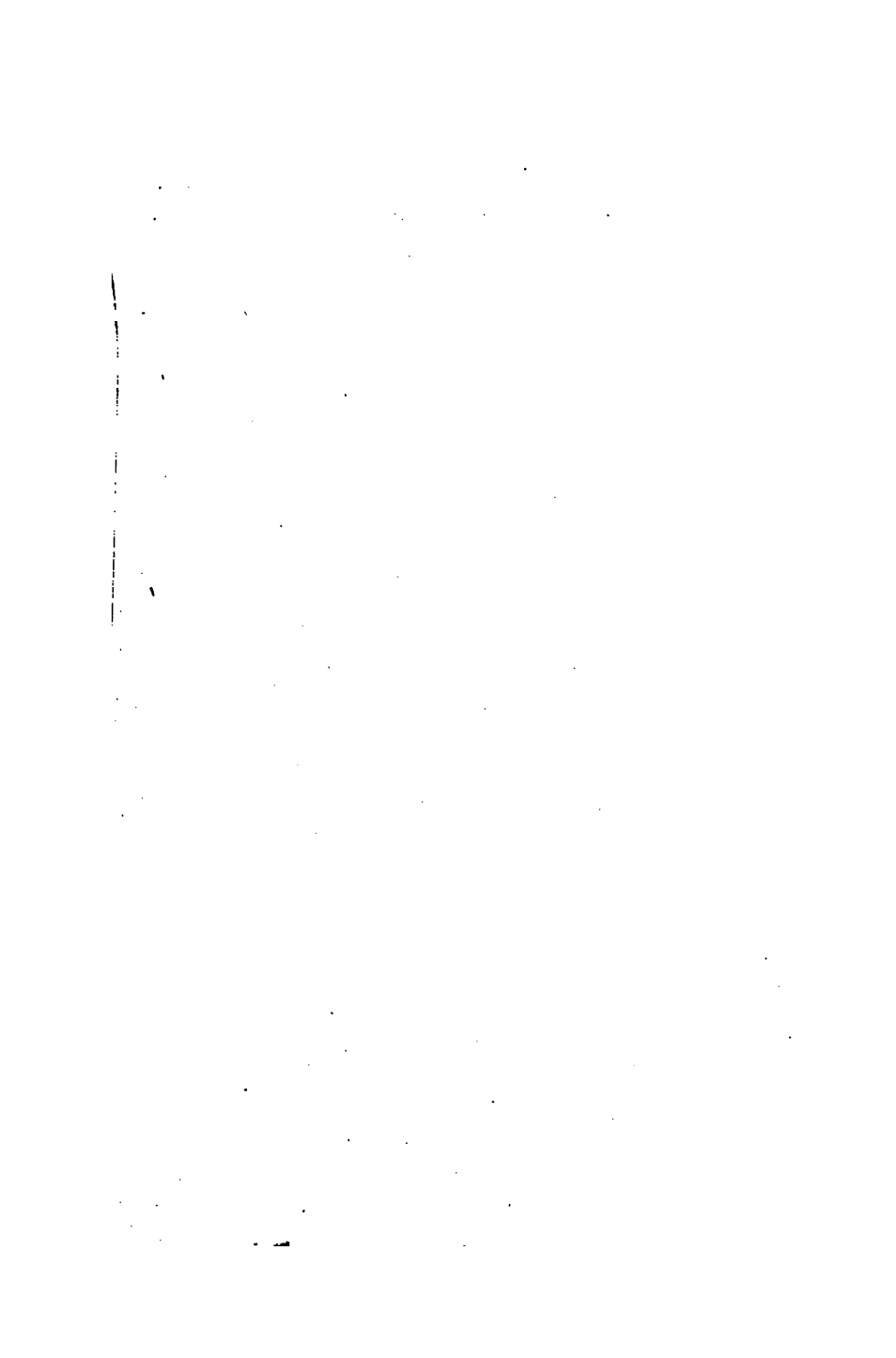
About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>









715.

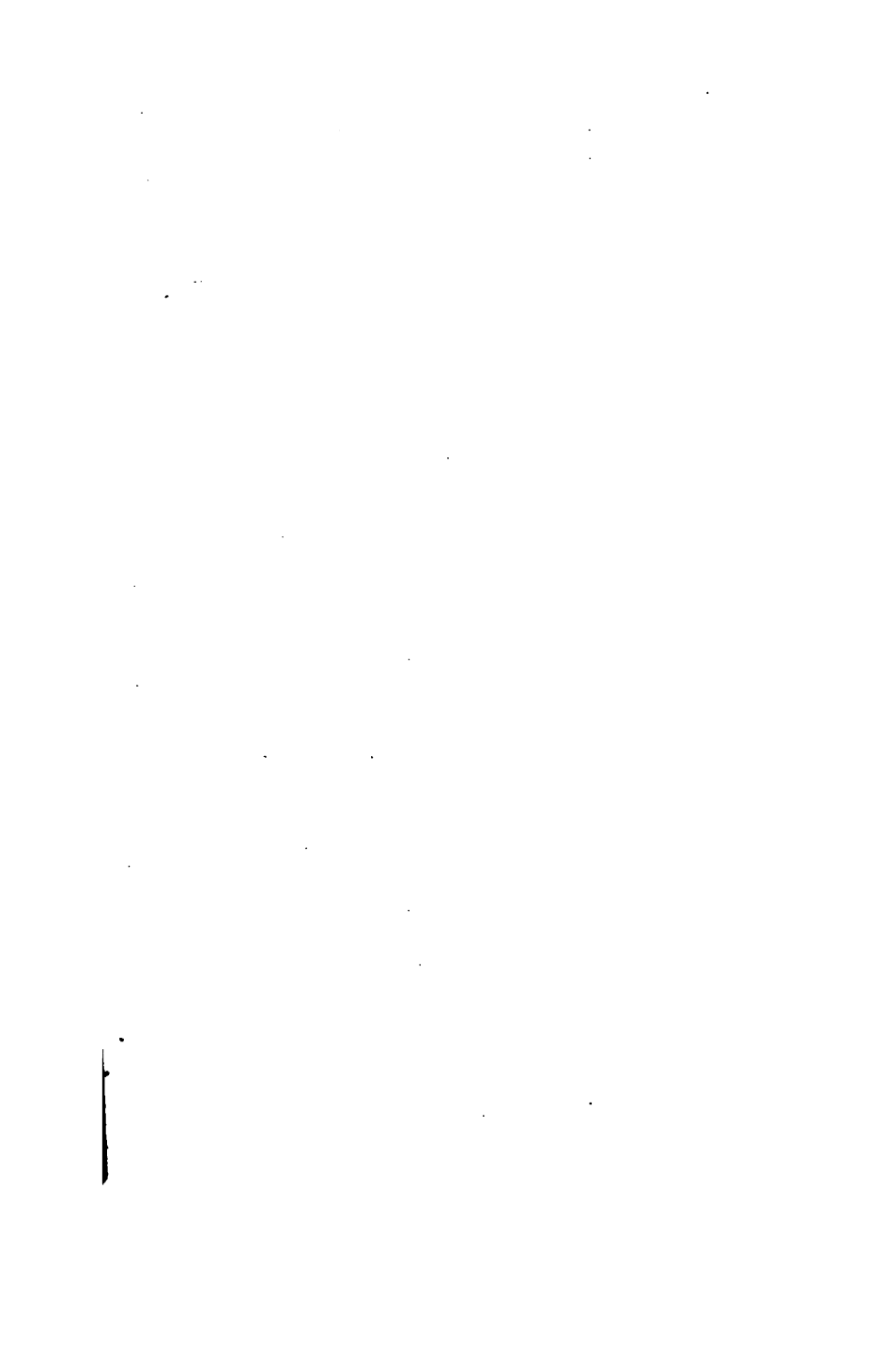
HANDBOOK OF HOUSE PROPERTY:

A Popular and Practical Guide
TO THE
PURCHASE, MORTGAGE, TENANCY & COMPULSORY
SALE OF HOUSES AND LAND;
INCLUDING THE LAW OF DILAPIDATIONS AND FIXTURES;
WITH EXPLANATIONS AND EXAMPLES OF
ALL KINDS OF VALUATIONS,
AND USEFUL INFORMATION AND ADVICE ON
BUILDING.

BY
EDWARD LANCE TARBUCK,
ARCHITECT AND SURVEYOR.

AUTHOR OF "A POPULAR ACCOUNT OF THE STYLES OF ARCHITECTURE," FOR WHICH
THE ROYAL INSTITUTE OF BRITISH ARCHITECTS AWARDED THE "INSTITUTE
MEDAL"; EDITOR OF VARIOUS PRACTICAL WORKS ON BUILDING; &c.

LONDON:
LOCKWOOD & CO.,
7, STATIONERS' HALL COURT, LUDGATE HILL, E.C.
1875.



PREFACE.

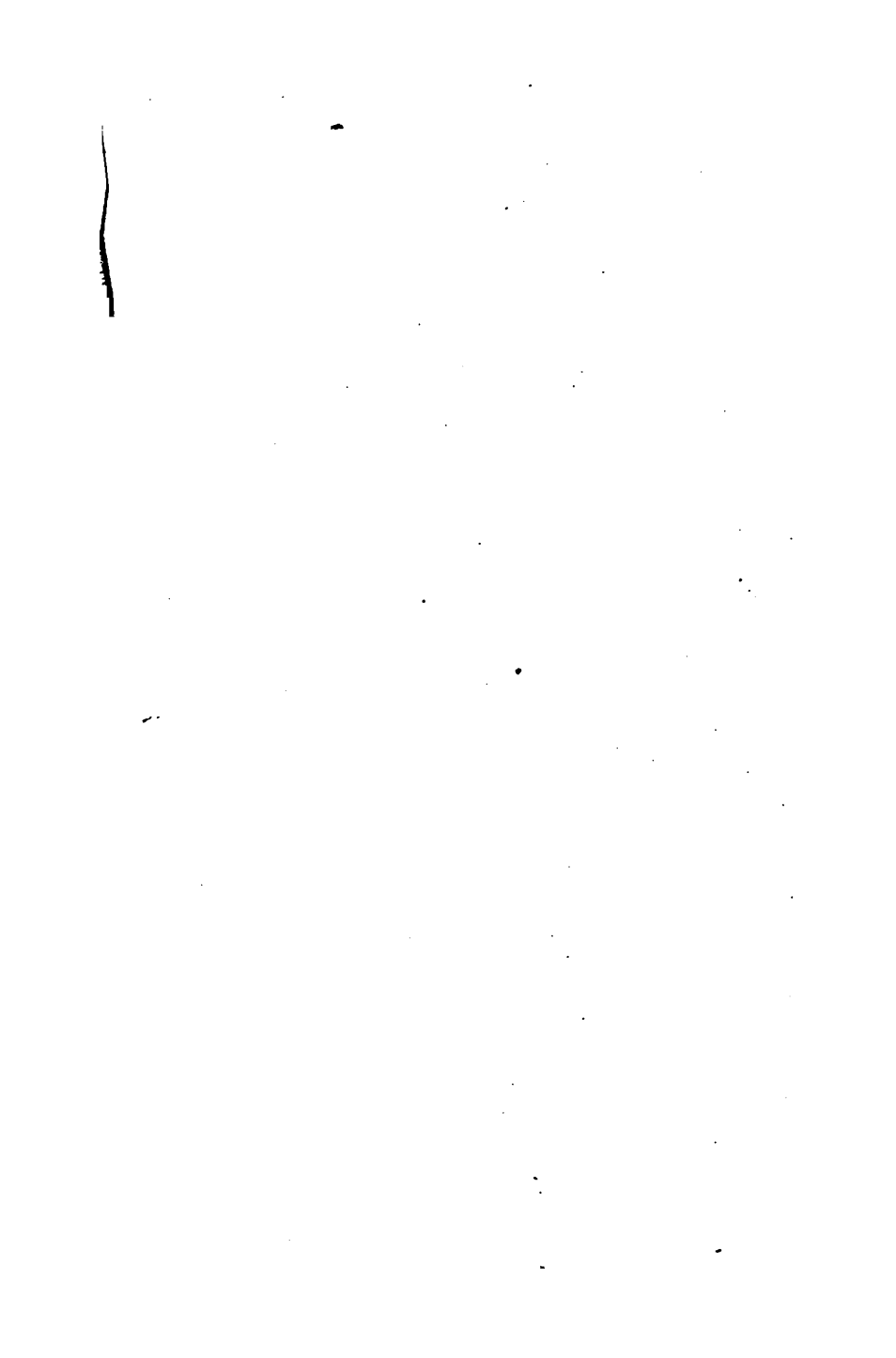
THE professional notes which initiated this little volume so expanded during the author's business avocations as to suggest their public utility, clearly classified and closely condensed, in a mature form ; especially as there does not appear to be one comprehensive manual including all the topics treated, notwithstanding their close connexion, and that in some of them every person is more or less concerned.

The Book consists of Three Divisions : the First relating to the Law affecting Land and Houses ; the Second to the Practice in Valuations ; and the Third to Procedure in Building Houses ; but a Fourth, or Fine Art Division, may, from its speciality and significance, be reserved for a separate volume.

The information contained in the work is partly floating about in the business world and partly scattered in multifarious publications. But although the range of subjects is extensive, no labour has been spared to secure substantial accuracy, and to supply a reliable realization of the title page.

E. L. TARBUCK.

25, HANOVER PLACE,
KENNINGTON PARK, S.E.
April, 1875.



SYNOPSIS OF CONTENTS.

First Division.

THE LAWS RELATING TO PROPERTY.

KINDS OF PROPERTY.

	PAGE
ESTATE	9
FREEHOLDS	9
LIFE INTERESTS	11
LEASEHOLDS	12
COPYHOLDS	13
GENERAL TERMS	16

PURCHASE OF FREEHOLDS, COPYHOLDS AND LEASEHOLDS.

PROCEDURE ON SALE OF PROPERTY	18
MISDESCRIPTION	18
PRODUCTION OF DOCUMENTS, &c.	20
GENERAL CONDITIONS OF SALE	20
COPYHOLDS	22
LEASEHOLDS	23
POSSESSION OF TITLE DEEDS	24
LENGTH OF TITLE	25
SEARCHES FOR INCUMBRANCES	28
COVENANTS	29
LIABILITY FROM AND REFUSAL TO FULFIL AGREEMENT	29
EXPENSES WHEN TITLE GOOD OR DEFECTIVE, AND OF CON- VEYANCE	30
EMPLOYING VENDOR'S SOLICITOR	31
AUTHORITY AND CHARGES OF AGENTS	32
LETTERS	33
REGISTRY OF TITLE	33
FORMS OF AGREEMENTS FOR SALES	34

MORTGAGES.

LEGAL MORTGAGES	38
COVENANTS	39
EQUITY OF REDEMPTION	40
LENDER'S HOLD	40

	PAGE
SUCCESSIVE MORTGAGES	41
EQUITABLE MORTGAGES	42
FORM	43
LIMITATION OF CLAIMS	43

LEASES AND TENANCY.

TERMS	45
WHO MAY GRANT AND HOLD LEASES	45
AGREEMENTS AND LEASES	46
UNDERLEASES	49
ASSIGNMENTS	51
SURRENDERS	51
COVENANTS AND CONDITIONS	52
FORMS	55
REMEDIES AT LAW FOR WRONGS	57
REMEDIES IN EQUITY FOR WRONGS	60

TAXATION.

GENERAL OBSERVATIONS	63
KINDS OF TAXES AND RATES	64

DILAPIDATIONS.

INTRODUCTORY ELUCIDATION	67
NATURE OF WASTE	69
PARTIES LIABLE	71
NATURE OF DILAPIDATIONS	72
LIABILITIES UNDER STIPULATIONS TO REPAIR	76
LIABILITIES WITHOUT STIPULATIONS TO REPAIR	78
FIRE	81
SURVEYING AND VALUING DILAPIDATIONS	82
LEGAL REMEDIES	85
FORMS	86

FIXTURES.

ORIGIN	88
NATURE	89
REMOVAL	92
LISTS	93
DAMAGE	95
SALE	96

SUNDRY RIGHTS AND LIABILITIES.

BOUNDARIES	98
LIGHTS... ..	99

CONTENTS.

vii

	PAGE
WATER AND DRAINAGE	108
RIGHT OF WAY	108
TIMBER	109
NUISANCE	109
INSURANCE	104

COMPULSORY SALE AND COMPENSATION.

NATURE OF CLAIMS	106
ABSTRACT OF GENERAL ACT	108
PROCEDURE ON CLAIM	111
ADJUDICATION OF CLAIM... ..	112
COSTS	113
EVIDENCE OF VALUE	114

Second Division.

THE VALUATION OF PROPERTY.

RELATIVE VALUE OF PROPERTY.

NO ABSOLUTE CRITERION	117
FREEHOLDS	117
GROUND RENTS	118
LEASEHOLDS	119
COPYHOLDS	120
MORTGAGES	123
TABLE OF AVERAGE MARKET VALUES... ..	124

INTEREST, RENTAL AND DEDUCTIONS.

INTEREST WITH YEARS PURCHASE	125
RENTAL... ..	127
NATURE OF DEDUCTIONS	128
AMOUNT OF ANNUAL DEDUCTIONS	130
TAXES, &c.	131
REPAIRS	133
PROFESSIONAL CHARGES	133
STAMPS	135
SUMMARY OF DEDUCTIONS AND ADDITIONS	136

RULES FOR CALCULATIONS.

USE OF TABLES	138
TABLE FOR ESTATES HELD FOR CERTAIN TERMS	139
FREEHOLDS	140
LEASES FOR CERTAIN TERMS	142

	PAGE
REVERSIONS OF FREEHOLDS AND LEASES AFTER CERTAIN TERMS	144
RENEWALS OF LEASES FOR CERTAIN TERMS	145
LEASES FOR LIVES	149
TABLES FOR ESTATES HELD FOR ONE LIFE	151
REVERSIONS OF FREEHOLDS AND LEASES AFTER A LIFE OR LIVES	153
RENEWALS OF LEASES FOR LIVES	155

PRICES AND DETAILS FOR VALUATIONS.

VALUE OF LAND	157
CREATION OF GROUND RENT	161
VALUE OF HOUSES	166
FORMS OF VALUATION REPORTS	170

PRACTICAL EXAMPLES OF VALUATIONS.

VALUATIONS FOR GENERAL PURPOSES	171
VALUATIONS FOR COMPULSORY SALES	181
VALUATIONS FOR ENFRANCHISEMENTS	187

Third Division. ON BUILDING HOUSES.

BUILDING GENERALLY.

FOUR COURSES OF PROCEDURE	191
RETENTION OF ARCHITECT	192
QUANTITIES FOR ESTIMATES	193
GENERAL CONDITIONS OF CONTRACTS	198
FORM OF AGREEMENT	200
REMUNERATION AND RESPONSIBILITY OF ARCHITECTS ...	201

BUILDING LEASES.

EXPLANATION	204
CONDITIONS	204
SHORT CONTRACT	209
AGREEMENT WITH PROVISION FOR ADVANCES	209
SURVEYORS' CHARGES	211

GENERAL FEATURES IN RESIDENCES.

LOCALITY	213
HOUSES	213
GROUND AND APPURTENANCES	215
TENURE AND PRICE	216

First Division.

THE LAWS RELATING TO PROPERTY.

KINDS OF PROPERTY.

ESTATE.

Estate, or property, may be *real*, comprising land and buildings whether of freehold or copyhold tenure which are held for life or for some greater estate; or *personal*, including land and buildings held for fixed terms of years, and all other interests except realty.

Chattels, comprehending all property not freehold or copyhold, are divided into chattels *real*, pertaining partly to real property, as leases for certain terms; and chattels *personal*, not connected with realty, as gold, funds, shares in certain companies, goods, cattle, &c.

FREEHOLDS.

Freehold is an estate of inheritance or for life existing in or arising from real property of free tenure, or all not copyhold; and it is held in fee simple, fee tail or for any life.

A *fee simple* is the greatest estate, or highest tenancy (under the sovereign) without owing rent or service to any

superior, allowed by law, the owner being uncontrolled in its sale, devise or other disposition. In a *deed* (or document usually on parchment, signed, sealed and delivered) the word heirs is necessary to create a fee or inheritable estate, as "to F, his heirs and assigns for ever." Such property passes to the heir-at-law of intestates according to the rules of descent at common law modified by the 3 & 4 Will. IV. c. 106, personalty passing to the next of kin under the Statutes of Distributions.

A *fee tail* is restricted to a person and the heirs of his body, reverting if these fail to the heirs of the donor. The line of descent may be to general or to special heirs, as in *tail male* or *tail female*. Where man and wife hold land in special tail and either dies without offspring had between them, the survivor is tenant in *tail after possibility of issue*.

Under the 3 & 4 Will. IV. c. 74, abolishing fines and recoveries, every actual tenant in tail may by deed inrolled in the court of chancery, or entered on the court rolls in the case of copyholds, cut off or bar the entail and obtain the fee simple, which he can sell, thus defeating claims of reversioners or of his issue; but the concurrence of any party having a prior estate is usually requisite. Thus a son who is tenant in tail may at the age of twenty-one bar with the consent of his father the tenant for life, and prevent descent to the issue in tail or resettle the estate. "The policy of the law," Mr. Joshua Williams observes, "is now in favour of the free disposition of all kinds of property; and as it allows estates tail to be barred, so it will not permit the object of an entail to be accomplished by other means, any further than can be done by giving estates to the unborn children of *living* persons. Thus an estate given to the children of an *unborn* child would be absolutely void; and no plan can be now adopted by which lands can with certainty be tied up for a longer period than the lives of existing persons and a term of twenty-one *years after their decease*." But, as has already ensued in

great part of Europe, many of our colonies and several American States, it seems likely in England, that arbitrary rules of settled descent enabling "each generation to control the land rights and powers of its unborn successors" will sooner or later be summarily swept away. For not only does the mediæval family law of sequential or renewed entail often occasion, among prospective private evils, unjust distribution between children from the accident of birth (like the mischievous custom of primogeniture in the absence of will or settlement), besides recklessness in one who knows he cannot be superseded, and frauds on creditors, but it clashes variously with vital public interests: as by obstructing salutary scope of sale, crippling circulation of capital, curtailing investment in cultivation and improvement, and diminishing the productive power of the people.

A *base fee* is a tenure in fee which may be defeated by limitation or on entry. Tenure or custom in *gavelkind* is where the lands of the father are on his death divided between all his sons or if he has no offspring between all his brethren. In *Borough-English* the youngest son or in default of issue the youngest brother succeeds. *Socage* is a tenure originating in some service not military, all the land in England being once held either in this tenure or in knight-service.

LIFE INTERESTS.

With regard to life estates, the distinction between freeholds and chattels real consists in the indeterminate duration of the former and the determinate duration of the latter; a lease for a certain term of years (or chattel interest in real property) not being equal at law to the lowest estate of freehold, a lease for another's life (or freehold interest in real property) of which the time is uncertain. So a *lease for ninety-nine years, but determinable upon a life or*

lives, is not a lease for life amounting to a freehold, but only a lease for years; and even one for 1000 years neither amounts to freehold nor to so high a legal nature as life estate.

Estates for life are of various kinds. Some are for one life, and these are most common. Others are for two lives, as joint tenancies and joint tenancies with benefit of survivorship; the former terminating on demise of either party, and the latter after both lives. Others are for three lives, depending on joint continuance or on the longest of the lives. Besides copyholds granted in consideration of fines payable for renewals on decease of tenants, many holdings under ecclesiastical and lay corporations, &c., are on lives. When a person holds an estate for another's life he is called a tenant *pur autre vie*, and leases made by him determine on the death of the *cestui que vie*, or person during whose life he holds, but not on his own death.

Curtesy of England, or tenant by the curtesy, applies to a husband's life estate on the death of his wife in her freeholds if he has issue by her who may inherit.

Dower is the portion of her husband's freeholds, generally one-third, to which a widow is entitled for life whether or not she has children by him. *Freebench* is dower in copyholds. Right to dower may be prevented before or be barred after arising, and is seldom calculated upon as a provision.

LEASEHOLDS.

A *lease* is a conveyance of the use of land or buildings for life, years or at will, subject to conditions and covenants, with a reversion to the lessor, who generally either *lets* the premises at the annual rack rent or *sells* them in consideration of a gross sum in present payment instead of receiving annually in so many several payments the estimated rent during the time. A lease from a leaseholder for a shorter

term than his interest, sometimes only a day less to secure a reversion empowering distrain, is properly an *underlease*; but if held for all his interest it amounts to an *assignment*. *Surrender* is yielding up an estate for life or years to one owning the immediate reversion.

COPYHOLDS.

Copyhold is a tenure of a mixed nature advanced by the Normans upon the Saxon bondage, and arising from qualified grants by ancient monarchs or conquering generals of tracts of land to military chiefs, barons, bishops, or other important personages, who, reserving portions as their peculiar domestic demesnes, regranted, under such arbitrary conditions as occurred to them, part to their villeins or serfs and part to freemen, the poor land remaining being the waste over which the tenants generally had rights of common. Thus what are called manors, or places where the lords lived, first arose; and eventually by purchase or otherwise they passed into various hands.

But although the freemen or freeholders were subject to rents and services, the slaves or villeins really initiated copyholds. For while absolutely at the mere pleasure or will of their superiors, according to the customs of manors, some had only a life interest in the lands they occupied, others a privilege of inheritance on payment by the heir of money called a *fine*, and some a dispensation to surrender their holdings for the admittance of a stranger on his paying a *fine*, they gradually, by continued encroachments on or by special favour of successive lords, secured customary rights to estates checking the will of the lords and acknowledged at common law, the military or agricultural services on which their tenures were based being commuted into various duties in token of manorial submission and payments, *not optional but binding both parties, and thus*

advancing by usage and indulgence a dependent and precarious possession into an incontestable legal estate.

Four circumstances are requisite to constitute a copyhold; namely, a manor, a court, the land must be part of the manor of which it is held, and must have been demisable by copy of court roll from time immemorial, as the tenure cannot now be created.

The *manor* is the estate to which the property pertains; the court of the *lord* or *lady* for the administration of affairs is usually presided over by the *steward*, or officer authorised to register transactions in or out of court connected with the estate in books composing the *court rolls* of the manor, which are kept by him, the tenants having a right of inspection, and their evidence of title being a *copy* of the rolls on grant of the land or tenement constituting tenancy by copy of court roll or copyhold. It is transferred by *surrender* to the lord followed by *admittance* of the new tenant.

Fines are sums payable on admission of new copyholders, that is when tenancy is changed, either on death of the tenant or on his alienating or selling his interest: sometimes they are also due on the death of the lord. A *relief* is in the nature of a fine, being a certain sum of money, sometimes a year's rent or profits, due to the lord from the tenant at his entrance.

Services and *suits* are various duties, as fealty, attendance, heriots, rent, &c., accruing from the tenant to the lord.

Heriots consist in forfeiture to the lord on death of the tenant, and sometimes also on a surrender, of the best or second best beast or other chattel or a fixed sum, according to the custom of the manor.

Rents of assize are fixed or assized rents of freeholders and ancient copyholders of manors: those of the freeholders are frequently called *chief rents*, and both kinds are termed *quit rents* because thereby the tenant goes quit of other service. *Fee-farm* rent is one reserved on a grant

in fee; and *rent service* implies originally some corporeal service. *Customs* must be time out of memory, reasonable and certain.

Ancient Demesne applies to land which in William the Conqueror's time formed part of the sovereign's peculiar domain and is registered as "terra regis" in Domesday Book. This tenure, originally based on cultivating the king's freehold, is a superior sort of copyhold varying in its nature and privileges. One variety called *customary freehold* or *tenant right* estate prevails in northern English counties, and is held by copy of court roll but not at the will of the lord, the modes of alienation often differing from those usual in copyholds. As in ancient demesne, the fines are generally *certain* with a tenant's right of renewal.

Copyholds of Inheritance are held at the will of the lord according to the custom of the manor, the heir succeeding his ancestor in the tenure. They are subject to quit rents, heriot custom, the tenant can claim timber for repairs, and when the fine is certain he has a right of renewal on paying the sum due on descent or death and on alienation or sale, as the case may be, the lord not having power to demand a larger amount or to refuse admittance. In most cases the fine is *relatively* certain, as one and a half to two years' annual value on death of tenant and rather less on sale, when it is usually called an *arbitrary* (practically arbitable) fine; but it is sometimes *absolutely* certain, and then almost always a comparatively small sum, as 1s. or £20 in either case.

Copyholds for Lives are inferior to the preceding tenure, the lord's ancient rights having been more vigilantly preserved. They are for one, two, usually three and sometimes for six lives, are subject to quit rents and heriots, and the timber belongs to the lord. The tenant is entitled to renew only when the fine is either absolutely or relatively certain, for if it is merely a reasonable fine he must make the best

terms he can with the lord. In some manors copyholds for lives and of inheritance are intermixed.

Copyholds for Years, the lowest class, are generally for twenty-one, renewable every seven years; but the copyholder has no legal right of renewal.

Enfranchisement is conversion of copyhold into freehold by conveyance of the fee simple; and it may be effected at common law in the ordinary manner, or under Acts regulating voluntary enfranchisement, or empowering lord or tenant to compel enfranchisement. The lord's claims may also be *commuted* for rent charges, &c. Generally, common law is not so desirable as statutory enfranchisement; when voluntary, costs of the latter are about the same as the former; and the substituted title being independent of that of the lord obviates much expense in future transactions.

According to the minute of the copyhold commissioners respecting compulsory enfranchisement under the copyhold Act of 1853, 21 & 22 Vict. c. 94, a lord or tenant can compel enfranchisement of copyhold land or extinguishment of heriots on giving notice to the other party and to the commissioners, when the parties may agree upon the consideration subject to the approbation of the commissioners, and where their assistance is desired they will state the amount to be paid upon a form being filled up accompanied by a valuation; particulars following as to appointing valuers, &c. Under the copyhold Act of 1852, 15 & 16 Vict. c. 51, s. 7, where enfranchisement is compulsorily effected at the tenant's instance the compensation is to be a gross sum of money, and where at the lord's instance it is to be an annual rent charge.

GENERAL TERMS.

Personal designations terminating in *or* or *ee* signify from or to, and are respectively of active or passive implication; as *lessor*, he who lets, and *lessee*, he to whom pre

PURCHASE OF FREEHOLDS, COPYHOLDS AND LEASEHOLDS.

PROCEDURE ON SALE OF PROPERTY.

The Statute of Frauds, 29 Charles II. c. 3, was passed to prevent frauds and perjuries in maintaining fictitious or falsified contracts; but its interpretation is said to have cost £100,000. Section 4 enacts,—“That no action shall be brought whereby to charge any person upon any contract or sale of lands, tenements or hereditaments, or any interest in or concerning them, or upon any agreement that is not to be performed within the space of one year from the making thereof, unless the agreement upon which such action shall be brought, or some memorandum or note thereof, shall be in writing, and signed by the party to be charged therewith, or some other person thereunto by him lawfully authorised.”

Beyond what will be gathered from succeeding observations, agreements should generally fix time with place:—for the seller to deliver an abstract of title, usually seven to fourteen days; for the purchaser to specify objections and requisitions, usually ten to twenty-one days, failing which the title is to be deemed accepted; and lastly for the completion of the contract: so that in clear cases from three to six weeks suffice; and about a month is allowed on sales by auction.

MISDESCRIPTION.

“Moral writers,” quoting Lord St. Leonards, “insist *that a vendor is bound, in foro conscientie, to acquaint a*

purchaser with the defects of the subject of the contract. Our law does not entirely coincide with this strict precept of morality." But while a seller is not obliged to point out and expose *obvious* defects in property, he must be very careful concerning concealment of such as are more or less *secret*, or not discoverable by ordinary care and observation, even in sales subject to all faults and errors of description, as equity may relieve the purchaser from the contract, just as it may enforce one where trivial inaccuracy is fairly subject of indemnification. Wilfully misrepresenting actual rent or not disclosing encumbrances is fraudulent.

Although property should be accurately described, it is often stipulated that misdescription shall not nullify the sale if compensation, usually by arbitration, is made. Of course the seller is bound to know some things; and such a clause would not palliate substantial misstatement, *malâ fide* exaggeration or the slightest fraud; and if the misrepresentation, error or omission is so serious that it stands to reason the purchaser would most probably not have bought if aware of it, while at the same time—"caveat emptor"—he exercised the customary prudence and intelligent attention incumbent before purchase, its completion could rarely be enforced on any pretext of abatement.

Such cases often arise relating to the stock phrases, "more or less," "or thereabouts," &c., applied to quantity of land, but which countervail only comparatively slight mistakes; and although "by estimation" is a more elastic expression, its operation is qualified by fairly equitable considerations; and even the merely careless seller may risk inculpation in fraudulent falsification. Still a purchaser could hardly claim compensation for deficiency or for other misdescription, or for ignorance of restrictions relating to right of way, building, &c., affecting sometimes even freeholds, when any degree of privity is provable. In his "Treatise of the Law of Property as administered by the

House of Lords," the great authority last cited expresses the opinion that,—“If a contract stipulate that any error or misdescription shall be the subject of compensation, still the whole of the description should be taken into consideration, so as to see whether the purchaser, if he have not the subject as described, has not obtained in other respects greater advantages than were held out to him.”

PRODUCTION OF DOCUMENTS, &c.

It is implied in unconditional sales that there is an unobjectionable title and that the vendor can prove his right to sell the property. An abstract of title to it, and, as *prima facie* evidence of ownership and commonly passing with the estate, the title deeds must be produced, or if these, with other requisite documents, are out of the seller's custody, opportunity is (with some exceptions) to be given for their inspection, or, if not extant, their execution or loss should be made clear; copies of various absent instruments, as records, are ordinarily furnished for comparison; and all essential points pertaining to persons or property must at least admit of being substantiated by legal, which is not always identical with reasonable, evidence.

GENERAL CONDITIONS OF SALE.

At auction sales particularly, the rigorous character of the above requirements is modified by special conditions limiting obligations of sellers and checking requirements of purchasers. Otherwise, the cost of perfecting a more or less safe holding title, or one which, for most practical purposes, may be sufficiently sound as it stands, would often, from unreasonable requisitions, be disproportionate to security desired or value of property. Valid market-*able titles to large properties*, which equity would enforce

on unwilling purchasers under unqualified contracts for sale, are very uncommon, except in the case of old family estates which seldom come into the market.

Thus commonly, title is stated to commence with an instrument barring prior investigation; and purchasers are also required to defray expenses of obtaining certain evidence they may desire in verifying the abstract or otherwise, but the seller producing documents in his possession or power. Sometimes each party bears half the cost of searches, &c.; and occasionally, but very rarely, all evidence of title is furnished at the buyer's expense.

Purchase value is proportionately affected by arbitrary, unusual or exceptional conditions deterring buyers, as well as by the period rendering recitals conclusive of things stated, which time should not be less than twenty years (37 & 38 Vict. c. 78); and, although there are few matters on which titles are more frequently defective than in confirmation of identity of property, it is often stipulated that no proof shall be required beyond that comprised in muniments of title or beyond the seller's written declaration that there has been quiet enjoyment for so many years without interruption. Still if deeds materially or confusedly conflict they may so far disprove identity as to necessitate further evidence.

It is usual to provide that if an objection or requisition is urged which the seller is unable or unwilling to remove, he may rescind the sale, on returning the deposit without interest or other compensation; but he must, at least, try to satisfy the buyer.

A proviso that time shall be of the essence of the contract signifies that the purchaser cannot after a certain period take exception on the special matter. The abstract must be reasonably complete; and a condition that if the contract is not performed by a fixed day, the purchaser shall pay interest on residual money will not always operate if this is imputable to the seller, who may sometimes

have to compensate the buyer for deterioration meanwhile in the property.

Of course, the seller may provide that neither inquiry shall be made into title, nor any objection or requisition be urged on other points; and, similarly, the purchaser may admit title, and require no evidence on other matters.

The phrase, such title as the seller has, does not absolve him from proving it so far as he can from documents in his power.

Sometimes the vendor reserves right of bidding under the Auction Act, 1867; and it is ordinarily stipulated that if the purchaser fails to comply with conditions, his deposit is to be forfeited to the vendor, who is to be free to resell the property, either by auction or privately, without notice to the purchaser, while the latter is to be liable for any deficiency, with expenses on resale, the whole to be recoverable as liquidated damages, and that it is not to be necessary for the vendor to tender previously a conveyance for execution.

Conditions ought to be drawn by a lawyer and not by an auctioneer.

COPYHOLDS.

Purchasers of copyholds should ascertain the customs of manors as to descent, fines, rents, heriots, suits, services and other incidents of tenure, although some, as being recognised essentials, are often omitted or only cursorily mentioned in conditions of sale, the purchaser being deemed to buy with full knowledge of them; but the nature of the fines should be stated, whether fixed or arbitrary.

Title is, as a rule, readily ascertained from the rolls, but its commencement is commonly limited to the date of an admission.

It should be remembered that copyholds may be for-

feited for contravening the tenure, as leasing without licence or contrary to custom, committing waste, failure in payments, &c. Of course, the lord may waive forfeiture.

Copyholds are conveyed by the tenant surrendering the property to the lord, as in order to a new grant or to the use of another, who thereupon or afterwards is admitted tenant according to the custom of the manor. The surrender is made either in or out of the lord's court; the admittance is completed on payment of the fine; the transaction is recorded on the rolls, and a stamped copy delivered to the new tenant. Sometimes a deed of covenant for title is executed by the old tenant, as no covenants are entered on the rolls. It is often convenient to execute surrenders out of court, acknowledging that the vendor surrenders his estate to the lord to such uses, according to the custom of the manor, as the purchaser shall appoint, and meanwhile to the use of the latter; but the lord is not obliged to accept such surrender, nor can he insist on the surrenderer's admittance.

As the surrenderor remains tenant until the surrenderer's admittance, the latter should recollect that a covenant to surrender gives him an equitable title only, and does not effectually preclude the former from surrendering to another person unaware of the previous transaction, and who, after admission, could not be evicted from his legal estate.

LEASEHOLDS.

A freeholder agreeing to lease is nowise obliged to show his title to the fee simple; and although the seller of a subsisting lease usually precludes examination into the original lessor's title, ejectments in consequence of defects in it rarely occur. The Vendor and Purchaser Act, 1874, 37 & 38 Vict. c. 78, alters the law by providing that where not otherwise stipulated,—“Under a contract to grant or

assign a term of years, whether derived or to be derived out of a freehold or leasehold estate, the intended lessee or assign shall not be entitled to call for the title to the freehold."


The buyer of a lease ought to inquire whether it is an underlease, also if there is any underlease and the holder is peculiarly privileged. He should likewise consider the covenants and conditions, whether any clash with his convenience, and specially if they apply to other property; which circumstance, or that of a lease he agrees to purchase turning out to be an underlease, entitles him to rescind the contract.

Although it is generally conditioned that a purchaser shall not require more evidence of covenants and conditions having been observed than the receipt for last rent due, it should be borne in mind that irremediable forfeiture may have been incurred for some act or default unknown to the lessor at the date of such receipt.

In the case of life leaseholds, the existence, identity and age or ages of the party or parties must be proved by the vendor. It appears that a lease under a power to lease for lives must be confined to lives *in esse*.

POSSESSION OF TITLE DEEDS.

If the title deeds, showing the seller's right to property, can neither be delivered nor inspected, it is obvious that past and future sales and mortgages may be sheerly speculative, independently of risk of dispossession, from equity deeming absence of deeds, if not satisfactorily explained, as constituting constructive notice of prior claim. In his "Principles of the Law of Real Property," Mr. Williams cautions purchasers that though,—“generally speaking, the possession of the deeds is all that a purchaser has to depend on, and in most cases this protection, coupled with an



examination of the title they disclose, is found to be sufficient, there are certain circumstances in which the possession of the deeds can afford no security. Thus the possession of the deeds is no safeguard against an annuity or rent charge payable out of the lands; for the grantee of a rent charge has no right to the deeds. So the possession of the deeds showing the conveyance to the vendor of an estate in fee simple, is no guarantee that the vendor is not now actually seised only of a life estate," as he may have settled the property. Still Davidson, in his "Precedents," says sensibly:—"Although no absolute certainty of safety is attained, the probabilities arising from the possession of the title deeds, when they show a good apparent title, and there is nothing to suggest suspicion, are so considerable as to give rise to that moral certainty which is ordinarily relied on, and is sufficient to enable the course of business to proceed with facility and regularity."

When an estate is in lots, the title deeds relating exclusively to his own lot are delivered to the purchaser; but if they relate to several lots or other property, the seller commonly retains and covenants to produce them and furnish copies: sometimes they are similarly held by the largest purchaser who is protected from responsibility regarding other documents not in his custody. The 37 & 38, Vict. c. 78, enacts that, subject to contrary stipulation,—“Where the vendor retains any part of an estate to which any documents of title relate, he shall be entitled to retain such documents.” If property is conveyed entire, the seller cannot generally retain title deeds on account of an unpaid balance, but he has a lien in equity on the estate.

LENGTH OF TITLE.

If quiet possession of property is retained for a certain number of years without payment of rent or acknowledgment of another person's right, the circumstance

constitutes in itself a preclusion, more or less effectual, to adverse claim.

Statutes from the reign of George III., bar the Crown's right to lands after sixty years' adverse possession ; but the enactment of general application is the 3 & 4 Will. IV. c. 27, an Act for the Limitation of Actions and Suits relating to Real Property, passed 1833, and, like too many statutes, a cobweb of confusing clauses. As Lord Bacon observes,—
“The loquacity and prolixity used in drawing up the laws in no degree obtain what is intended by it, but rather the contrary; for whilst it endeavours to comprehend and express all particular cases in apposite and proper diction, as expecting greater certainty from thence, it raises numerous questions about terms, which renders the true and real design of the law more difficult to come at through a huddle of words.”

According to sections 2 and 3 of the above Act, no person can make an entry or distress or bring an action or (s. 24) suit to recover land or rent after twenty years from the time the right first accrued to him or to some person through whom he claims ; or, in cases of reversions or future interests, after twenty years from the time of the estate falling into possession ; but (s. 14) time will also run from the period of written acknowledgment of his property given to the person entitled ; and if (s. 16) on accrual of right the claimant is under the disability of infancy, absence, &c., ten more years are allowed from termination of disability or his death ; yet (s. 17) so that the whole period does not exceed forty years ; and (s. 18) no additional time is allowed on account of the disability of any other person.

[The Real Property Limitation Act, 1874, 37 & 38 Vict. c. 57, shortening the periods of twenty years to twelve, of ten years to six, and of succession claims from forty to thirty years, also excluding time for absence beyond seas, commences in 1879.]

But in “The Law of Vendors and Purchasers,” Lord

St. Leonards warns that:—"It should be kept in view that forty years are not a bar against all the world. The twenty years form the regular bar, and the savings are the exception, and the forty years run only in the case of disabilities, in even which case not more than forty years are allowed. But the twenty years run only from the time when the right first accrued, and that in the case of a remainder, for example, is not until it falls into possession, which event, in the common case of an estate for life with a remainder over, may not happen within forty years of its creation." Thus, where property is held for life by one reverting afterwards to another, time will not go against the latter until his interest becomes, on the death of the life tenant, an estate in possession. As the tenant for life may survive, say upwards of eighty years, and the reversioner has twenty years' grace afterwards, with ten more if under disability, examples bechance of titles of third parties traceable for above a century being jeopardised.

Mere naked possession alone, though it may suffice for holding, is often far from being adequate title for selling, as it involves proving a negative, or that there has been quiet enjoyment without acknowledgment of any kind during a protracted period; and it is obviously very different if determinate evidence is derived from documents, when, as Burton says,—“An unbroken chain of instruments of conveyance for sixty years, ending with one to the vendor himself, who is in possession, is always sufficient to satisfy the purchaser without any further proof of ancient seisin,” except where it may be presumed from the abstract that estates tail are subsisting.

Chancery also has hitherto required root of marketable title sixty years back; but the Vendor and Purchaser Act, 1874, 37 & 38 Vict. c. 78, s. 1, settles that:—"In the completion of any contract of sale of land, subject to any stipulation to the contrary in the contract, forty years shall be substituted as the period of commencement of title

which a purchaser may require in place of sixty years, the present period of such commencement; nevertheless earlier title than forty years may be required in cases similar to those in which earlier title than sixty years may now be required,"—as where there is reason to suspect anterior defect. Of course the clause nowise secures perfect title.

Title to copyholds must be deduced like that to freeholds, an abstract of court entries, &c., being furnished for verification. Similarly, purchasers of leaseholds can claim the same length of title. If the lease is older it will constitute the root of title, and then that of the lessor need not generally be examined, as in the case of demise within the requisite period.



A jury may presume the death of a person after seven years from when he was last known to be living, as where a man goes abroad and disappears.

SEARCHES FOR INCUMBRANCES.

Although purchasers are mainly dependent upon vendors for producing or referring to instruments affecting title, the law in some cases directs registration as a check on secret or fraudulent transactions.

Thus in what are called "register" counties, as Middlesex, except the City, and Yorkshire, search should be made for at least twenty years, as all deeds and devises ought to be registered; but the statutes do not apply to copyholds, leases at rack rents or to those not exceeding twenty-one years with possession: in the Bedford Level too a register is established. As to copyholds, court rolls can be searched. There are also general registers of married women's acknowledgments, of certain annuities, of barring entails, of Crown debts, judgments, bankruptcies, wills, deaths, &c. Registry of title is hereafter explained.

If the seller's wife is entitled to dower, she commonly *releases her claim* in the purchase deed; the consent of all



persons interested is to be procured; and mortgages or other incumbrances must be discharged before right of disposition is clear.

COVENANTS.

The covenants by the seller are in effect that:—notwithstanding anything done or permitted by him, he has right to convey, &c.; that as regards leaseholds the lease is good and he has observed covenants and conditions; that the purchaser shall have quiet possession without interruption or demand by the vendor or any person claiming through him, and free from incumbrances; that the vendor, his heirs and any other party claiming interest in the estate through him will, at the cost of the purchaser, his heirs or assigns, do and execute all such further acts, conveyances, &c., reasonably required for better transferring and assuring the property; and that he will produce deeds and writings specified as occasion shall arise.

It will be noted that the covenants are not universal, but confined to acts and omissions of the vendor, and parties claiming under or through him, his ancestors being included if he inherited instead of bought.

Action for breach of covenant lies within twenty years from actual breach. The pecuniary position of the seller of an estate with doubtful title must be considered by the purchaser.

LIABILITY FROM AND REFUSAL TO FULFIL AGREEMENT.

In equity a person is owner of property from date of contract to purchase before the conveyance is executed; and thus, while he can devise or demise it, injury, dilapidation or deterioration, even to the extent of destruction, commonly falls upon him, and he should see to insurance and other matters to which it is prudent to attend.

Profits accrue to the purchaser from completion of sale. Usually the seller agrees to clear outgoings to a specific date, or rents and disbursements to the day of transfer are apportioned between the parties.

If the vendor or vendee declines completion of the agreement without good cause, the remedy is either at law by action for damages from breach of contract, vendor retaining the property, or in equity for specific performance of the contract, vendee taking the property. The case of a purchaser not completing sale by auction is heretofore mentioned.

EXPENSES WHEN TITLE GOOD OR DEFECTIVE AND OF CONVEYANCE.

If not otherwise arranged, the vendor must defray expenses of preparing abstract of title, of producing certain deeds, office or other copies of or extracts from records, of proving identity of property and persons with descent, births, marriages, deaths, distribution of estate after decease, the authenticity of various instruments, and other matters that may be necessary to obviate objections and substantiate right of disposition; the practice respecting covenants for production of documents of title which may be required being now regulated by the 37 & 38 Vict. c. 78, throwing certain costs on the vendee, who must also defray his solicitor's charges for all examinations, with requisite journeys to a reasonable distance according to circumstances, the vendor paying for travelling to remote districts in reference to property or place of sale. Provincial solicitors should instruct their agents when deeds, &c., are to be examined in London.

Should the title turn out defective and the contrary is not expressed, the purchaser can recover his deposit with 4 or 5 p. c. interest, as well as certain expenses in *testing title, journeys, &c.* Where the vendor has not

been guilty of malpractice, he is usually liable for only nominal damages on failing to establish title.

The purchaser must tender for execution the conveyance of a freehold or the deed of covenant for title and surrender of a copyhold, paying also costs of surrender and admittance, whether deeds are drawn by his own or vendor's solicitor. The lessor's solicitor usually prepares the lease and counterpart at the lessee's expense, but sometimes the lessor pays for the counterpart, and occasionally the lessee's solicitor drafts the lease. Disputes should be precluded by previous arrangement.

To protect the public by confining conveyances, &c., to competent parties, the 44 Geo. III. c. 98, enacts that, any person not duly certificated who for fee or reward prepares any conveyance or deed relating to real or personal estate shall forfeit the sum of £50. But the statute does not prevent any individual from drawing an agreement, will or instrument not under seal.

EMPLOYING VENDOR'S SOLICITOR.

Great risk is often run by employing the vendor's solicitor where there is doubt touching title or the expediency, economically or otherwise, of one man serving two masters whose interests are not identical. In his great work last quoted Lord St. Leonards counsels that:—"The same attorney ought not to be employed by both parties. For notice to an agent, although one concerned for both parties, is treated in equity as notice to the purchaser himself; and, therefore, if the attorney know of any equitable encumbrance, the purchaser will be bound by it." Again,—"A man's attorney is not at liberty to disclose any defect which he has discovered to the party entitled to take advantage of it, although that party is also his client, and the owner was aware that the attorney was also concerned for the *other party*."

AUTHORITY AND CHARGES OF AGENTS.

A principal can scarcely exercise too much caution respecting the selection and degree of authority of agents, and also express or tacit adoption of their acts, whether or not they are reported, as material matters should be, within a reasonable time.

Previously to retaining an auctioneer, remuneration should be arranged in case of sale or non-sale; and if the latter is probable it is commonly desirable to include expenses of attendance, advertising, bills, &c., in one fixed sum. The usual commission for public or private sales is 5 p. c. on the first £100 and 2½ p. c. on the remainder up to any £5000. Conditions of sale authorise auctioneers to receive deposits for their employers, but a balance should not be paid to other than the owner except at his written request. A deposit receipt of any kind ought always to mention full price.

Before employing an estate agent, his schedule of terms should be obtained (for lettings 5 p. c. on a year's rent and extra on terms and premiums); or it is preferable to furnish instructions with precise limits by letter, agreeing distinctly that no demand whatever is to be made beyond commission, and this is to be due only in case a sale or letting is *concluded* through information first given by *him*, and also not in respect of prospective transactions; some of these provident providers asking even for fresh commission in perpetuity upon every renewal of tenancy. So, if paid on letting there should be no claim for commission on future sale although to the same party, except where property is let with option of purchase, subducting amount paid for letting. Otherwise, it seems an agent could probably recover commission for finding a purchaser although the contract was ultimately relinquished through defects in title, &c., as its consummation rests with the vendor and vendee. A purchaser obtaining information through an agent rarely incurs expense.

LETTERS.

An unconditional written offer to sell an estate, described in the paper or by reference, for a sum named, and unconditional written acceptance within a reasonable or stated time commonly binds seller and buyer; and the former must then at his sole cost prove his title, which suggests the necessity of guarding offer and acceptance as without prejudice or subject to stipulations to be settled if intended to be only of the nature of proposition or not to be finally conclusive. An offer is not obligatory if retracted prior to consent or after it has been declined. Letters are binding from postage before receipt; and as constant causes of litigation, often written in haste and regretted at leisure, they should always be carefully considered on all points which are or may become of importance. Several letters sufficiently connected in sense to constitute one agreement require only one stamp.

REGISTRY OF TITLE.

Lord Westbury's Act to facilitate the Proof of Title to and the Conveyance of Real Estates, 25 and 26 Vict. c. 53, was passed 1862 for registration of freeholds with indefeasible title or with title not at first indefeasible, also of some leaseholds, and of interests after registration. Partly through its creating a registry of deeds, involving examination as to correspondence, rather than of title, involving only description of property and ownership, it is to be regretted that this initiatory effort to simplify, reform and cheapen the complex, tedious and costly system of conveyancing has been so slightly operative. For another reason, the more or less open inquiry often involved is as disagreeable to proprietors of estates with entangled titles or bewildering *incumbrances* as the startling prospective

diminution of fees, on mortgage, sale or compulsory purchase, from disparagement of title being precluded, is distasteful to their legal advisers; the costs, for one instance, of investigating title on a mortgage for £4000 being reduced from £500 to £5 after registration at an expense of £50. Still under an improved statutory system to facilitate transfer and thus enhance value (often even now by two or three years' purchase) of land, rendering its mode of sale almost as easy as that of consols and shares, by simple registration (in the United States sworn land brokers effecting alienations in a register office), it is possible that, as predicted in the "Times,"—"We shall shortly see the day when the registrar's certificate of title will be the only proof recognised in business of a man being the owner of a landed estate."

One slow step in this direction was attempted in Lord Cairns's Land Titles and Transfer Bill, introduced in 1874, but, lapsing in the Commons, reintroduced with sweeping modifications in 1875, the really essential provision proposed on the first occasion for compulsory registration being abandoned in the second bill.

The law of settlement and entail, often burdening land with charges for unborn persons, is still left untouched; and estates may manifestly be settled, barred and resettled from generation to generation without reference to a proposed statute subservient to sales.

FORMS OF AGREEMENTS FOR SALES.

The first form merely *suggests* briefly usual provisions, few technical words being required provided the intentions of the parties are made clear. Lawyers with, as London observes, that love of precedent which they cannot abandon from habit, because, Lord Bacon points out, they "*have not their judgment free but write as in fetters.*" and their

natural inclination towards exuberant redundancy of expression (1*s.* for drafting 72 words) often double verbosity without necessarily enhancing security; and the 8 & 9 Vict. c. 119, was passed to check this tautological evil, or "tyranny of words," and facilitate the conveyance of real property by substituting short clauses for the pleonasms in common use, the former having the same meaning as the latter. Similarly, the 8 & 9 Vict. c. 124, is to facilitate granting leases. Statutes are sold by the Queen's printer at the rate of 1½*d.* per sheet for public and 3*d.* for private Acts.

Agreement made this — day of — between A.B., of — and C. D., of — for themselves and their respective heirs, executors and administrators.

A. B. agrees to sell and C. D. to purchase, all that freehold land with timber by valuation and situated, &c. (or as specified in the first part of the schedule below); and also all that hereditament being copyhold of the manor of — and situated, &c.; and also all that leasehold messuage with fixtures scheduled held under a lease granted by — dated — and situated, &c., the whole subject to the conditions, rents, fines, heriots, customs, &c., pertaining to them, and to existing tenancies, at the price of £— payable in two instalments, £— by way of deposit on the signature hereof, and the balance of £— on the — day of — at the office of — when and where A. B., and any other necessary parties shall execute to C. D., or his nominee, deeds of conveyance of the freehold and of covenant to surrender and for title of the copyhold (or shall forthwith execute a surrender according to the custom of the manor), and of assignment of the leasehold land, hereditament and messuage respectively, all of which shall be prepared by and at the charge of C. D., who shall have possession and profits from the date of final transfer, until which all profits shall be received and all outgoings be defrayed by A. B.

A. B. shall deliver to C. D. on or before — an abstract of title to the aforesaid properties, such title to commence with, &c.; and all objections or requisitions shall be delivered in *writing* by C. D. to A. B. within fourteen days after the above

date, and any not then stated shall be deemed waived; production and inspection of documents, copies of rolls, certificates or other instruments, and also obtainment of all manner of evidence whether of identity or otherwise not in A. B.'s possession, with journeys, searches, &c., shall be at C. D.'s cost; no proof shall be required of facts stated or implied in documents twenty years old, or in any way of the title of the lord of the manor or of the lessor, nor other evidence of observance of covenants and conditions to completion of sale than production of receipt for ground rent last due; and misdescriptions shall not annul the contract, but compensation shall be given or allowed as the case may be, to be settled, if disputed, by two arbitrators or the umpire appointed by them.

All deeds and instruments relating solely to the properties and in A. B.'s possession shall be handed to C. D. on execution of conveyances, but such as refer also to other property are to be retained by A. B., who shall enter into the usual covenant for their production and allowing copies at C. D.'s expense, and also into the customary covenants respecting power to convey, surrender and assign, quiet possession, free from incumbrances, and for further assurance.

A. B. shall be free to rescind the contract, on returning the deposit but without interest or expenses, if any requisition is made respecting title with which he is unable or unwilling to comply; and it shall be optional for him if C. D. fails to complete the purchase by the fixed date, or to comply with any foregoing condition, to either claim 5 p.c. per annum interest on the balance until fulfilment of the contract, or to rescind the agreement and retain the deposit; but at all events if the title to any of the properties proves defective, C. D. shall be entitled to his deposit, but without interest, damages or costs, and to cancel the contract.

In witness whereof the said parties have hereto set their hands the day and year first above written.

A. B.

C. D.

Witness E. F.

Or if the agreements are separately executed by the respective parties in the absence of each other: witness to the signature *hereof by the said A. B. or C. D.*

In the latter case there may be appended to the agreement signed by the vendor his receipt for the deposit where he by writing authorises the vendee to pay it to his agent, the latter witnessing the receipt; and the duplicate agreement may contain an acknowledgment of payment.

Received the day and year first written from the said C. D. the above named sum of £— being the deposit to be paid by him to me.

Purchase money . . £

Deposit . . £ A. B.

Balance due . . £

Witness E. F.

Also: I hereby acknowledge I have paid, &c.

Where no difficulties are probable the following short form may sometimes be adopted.

Agreement made (date) between A. B. and C. D. whereby A. B. agrees to sell and C. D. to purchase the freehold, copyhold or leasehold (parcels) for the sum of £— payable (date) subject to the terms on which the said property is held. The title shall commence with (instrument) and C. D. shall defray expenses of producing all documents or evidence he desires not in A. B.'s possession; but no proof shall be required of the title of the lord of the manor or of the lessor

A. B.

C. D.

Witness E. F.

Receipt for any deposit may be added.

MORTGAGES.

LEGAL MORTGAGES.

Mortgage consists in pledging lands, buildings or immovable things as security for a loan.

Freeholds are mortgaged by grant in fee on condition that if the mortgagor, or borrower, repays the mortgagee, or lender, at the time mentioned the sum advanced with interest the latter shall convey back the estate.

Copyholds are mortgaged by surrender by the borrower to the lord to the use of the lender, but vacating the surrender on repayment as stipulated in a deed comprising the covenants, when, as it is unusual for the lender to be admitted and thus made liable for the fines, &c., it is needless to readmit the borrower.

Leaseholds are mortgaged by underlease or by assignment, with provisions for redemption and also for quiet enjoyment until his default by the borrower, who covenants that so long as money remains on the security he will pay the rent, observe the covenants by the lessee and conditions in the lease and indemnify the lender against claims and costs. As assignment vests the borrower's interest as regards his landlord (whose rights remain unaffected) in the lender or assignee, whether or not possession is taken, the last thus has more facility of sale but becomes directly responsible to the lessor. So that if rent is heavy or breach of covenant entitles the lessor to serious damages, underleasing is preferable, as liability rests with the borrower, or landlord of the lender, but the latter must see that the former does not occasion loss of the security by forfeiture *from failing to pay rent or observe covenants.*

In equity the borrower but at law the lender is owner of mortgaged property.

The valuation is made, the title investigated as on sale and the mortgage prepared by the lender's advisers, all at the borrower's expense.

COVENANTS.

In addition to special provisions in mortgages, as for payment to the lender of principal and interest on a stated day with interest afterwards by half-yearly instalments, borrowers are required to enter into covenants similar to those on sales before named, but with absolute and unqualified covenants for title as against everybody.

If not contrary to covenants in leases, insurance is effected, either by the borrower in his own name, when the policy can be assigned to the lender, or, as often preferable, by the former in the latter's name, dispensing with assignment; or it may be covenanted that the borrower shall insure, produce policy and receipt, and on failure the lender may insure.

Sometimes it is agreed that neither the lender shall require nor the borrower insist on repaying principal at the customary formal period of six months from date of deed; say in the former case five, and in the latter three years for duration of loan.

It is commonly covenanted that until failure in payment there is to be quiet enjoyment by the borrower, who continues in receipt of profits and may bequeath the property or sell subject to the mortgage, but he cannot lease so as to bind the lender.

Power of sale after notice on non-payment of debt renders the security more available to the lender, and may be advantageous to the borrower as saving expensive legal procedure; but the former cannot condition on his advance that the latter, if unable to repay, shall sell him the estate for a certain sum.

EQUITY OF REDEMPTION.

Although at common law a mortgaged estate is forfeited by not repaying the loan at the appointed date, equity will interpose, and, comparing the value of the property with the sum lent, if the former is greater, may allow the borrower reasonable additional time for redemption on payment of principal and interest with expenses. Otherwise, an estate worth £1000 might be lost for an advance of £100. But this privilege of the borrower, or his "equity of redemption," is irrecoverable if he again mortgages any part of the land without discovering to the second lender the former mortgage.

Six months notice of intention to pay must be given to the lender should the sum advanced not have been returned with interest at the stipulated period; and no agreement can countervail the borrower's right of redemption, on the principal that once a mortgage always a mortgage.

LENDER'S HOLD.

In case the borrower ultimately fails in his engagement, the lender may file a bill in chancery to "foreclose" or prevent him from redeeming should payment not be made as directed, when, if the money is not tendered and no postponement is ordered, a decree of foreclosure is pronounced. Sometimes if required the judge will substitute sale in liquidation. The lender may also bring an action for his money, or he can proceed in ejectment.

But legal or chancery procedure is avoided by the power of sale mentioned, enabling the lender without the borrower's further consent to sell the property by auction or privately six months after written notice accordingly of *default in payment*. The lender is however precluded

purchasing the estate, and any balance must be handed to the borrower.

Unless the security is small and precarious, it is seldom desirable for a mortgagee to take possession of property while there is probability of getting his money by another procedure, although deterioration, forfeiture from breach of covenant and other evils may thus be prevented.

"Let him look to his bond."

As litigation often arises on redemption and reconveyance, he must manage the estate prudently, and he becomes liable for injury in the nature of waste. Accounts of receipts should be kept, with vouchers for expenditure on essential repairs and for legal charges, especially in supporting his own or the borrower's claims; and interest is allowed, but not compensation for the lender's personal trouble.

SUCCESSIVE MORTGAGES.

The borrower is usually expected on completion of the mortgage to hand the title deeds to the lender.

The importance of possessing deeds has been previously explained; and should they be wanting it is incumbent on the mortgagee to find out why they are not delivered into his custody. For if the first lender cannot produce or unjustifiably gives up or is unable satisfactorily to explain absence of instruments, he hazards being deprived in equity of his security. Thus, a second mortgagee who has the title deeds without notice of prior incumbrance may be preferred to the first one, because the latter by lending money without taking them practically enables the mortgagor to deceive another mortgagee. So also, if a third mortgagee who at the time of his mortgage had no knowledge of the second, purchases the first mortgage, he may join or, in legal parlance, "tack" it to the third one, when both *must be paid out* of the estate before any share can

be appropriated to the second ; the reason being that the third, by thus obtaining the legal interest, has both law and equity on his side, which supersede the mere equity of the second. This doctrine applies to any number of mortgages if at the date of the last the then lender only knew of the first and which he subsequently secured.

Otherwise, successive mortgages to parties respectively unaware of other advances usually stand as claims according to priority. Lenders should however bear in mind that they may have to choose between discharging former mortgages and forfeiture of security ; and also that the first mortgagee may possibly sell the property without troubling following mortgagees with any information.

Sometimes notice of subsequent mortgage is indorsed on deeds as a check on tacking ; but generally a lender is not obliged to produce instruments.

EQUITABLE MORTGAGES.

A rough-and-ready form of mortgage meeting sudden requirements consists in depositing title deeds or part of them as security for advances. This, although not amounting at law to a mortgage, constitutes one in equity, chancery regarding such deposit, even where there is no written or oral agreement, as implying a contract between the parties, provided nothing equivocal appears in the transaction or contrary evidence is not forthcoming ; but no obligation to substantiate title is inferred. If also there is oral or written proof, as letters desiring additional accommodation in reference to instruments, the security will be accordingly extended. Obviously, a memorandum of the loan and interest with schedule of documents and if there is to be no power of sale (one, though not very convenient, being given by statute) is desirable. A solicitor must not take his client's title deeds as security for prospective costs.

Equitable are much inferior and may be postponed to legal mortgages; but defective legal mortgages are sometimes held binding in equity.

FORM.

In the following form the bracketed parts may be added according as the lender perfects his security, and a mortgage stamp is necessary. It may be modified for signature of both parties as further indicated. Sometimes a promissory note bearing even date is given as additional guaranty.

Memorandum of acknowledgment that the undermentioned deeds and documents have been deposited by A. B. with C. D. as equitable security for the sum of £— lent by C. D. to A. B., with interest at the rate of 6 p. c. per annum from this date.

(And also for repayment of more money that may, while the said instruments continue in the custody of C. D., be lent by him to A. B., with interest as premised from periods of advances.)

(A. B. also agrees that, while the said instruments remain deposited with C. D., he will when required and at his own cost execute to C. D. a legal mortgage of the property—without or— with power of sale after six calendar months' written notice of default in payment of interest or repayment of principal, and with any other reasonable stipulations C. D. desires.)

Dated this — day of —.

A. B.

Schedule.

Or:—Agreement made this — day of — between A. B. and C. D., whereby the deeds, and so on; C. D. also undertaking to deliver the documents to A. B. on payment of sums due.

LIMITATION OF CLAIMS.

By the 3 & 4 Will. IV. c. 27, 7 Will. IV. and 1 Vict. c. 28, if the borrower continues twenty years in possession or receipt

without payment or written acknowledgment, or the lender is similarly undisturbed without written acknowledgment, the claim of the respective opposite party is absolutely barred.

[The provisions of these Acts will have to be read with the 37 & 38 Vict. c. 57, which commences in 1879, and shortens the period of twenty to twelve years.]

The 3 & 4 Will. IV. c. 42, s. 3, enacts that, saving written acknowledgments and disabilities to sue, actions of debt for rent upon an indenture of demise and actions of covenant or debt upon any bond or other specialty (deed) shall be brought within twenty years. But by s. 42 of the 3 & 4 Will. IV. c. 27, no arrears of rent or interest in respect of any sum of money charged upon or payable out of land or rent shall be recovered by distress, action or suit but within six years after it becomes due or after written acknowledgment; that is, where there is no indenture, bond or other specialty.

LEASES AND TENANCY.

TERMS.

The nature of leaseholds has been before explained ; and it is now proposed to consider briefly incidents of tenancy. Woodfall, Platt, and Archbold are leading authorities.

Leases may be granted for any number of years, 1, 99, 1000, or for only months, weeks or days (all written lettings being subject to stamp duty as leases) ; and they are also called *terms*, signifying besides the interest that the time of ending is or may be made certain, a lease for life or lives of which determination is uncertain being, like other life estate, a freehold. Again, a lease for years may begin from a past, present or future day ; but a lease for life, being freehold, cannot commence in after time.

Compared with yearly holding, a lease may be advantageous to the landlord, in securing the tenant, probably more rent on renewal, with saving of outlay and gain of improvements ; and it may be disadvantageous to him in suspending possession, sale or improvements, and in difficult ejection of an objectionable party. It may be advantageous to the tenant, in securing possession and return for outlay, with comparative immunity from interference ; and it may be disadvantageous to him in involving continuous responsibility, sometimes loss of disbursements in various ways, and presumptively additional rent if he remains after the term, especially as regards business premises.

WHO MAY GRANT AND HOLD LEASES.

If not incapacitated by legal disability, any person can grant a lease to endure as long as his own holding, and one

overpassing this is valid to the extent of his estate ; but in certain cases persons can grant leases exceeding their own interests. Thus, life tenants may sometimes lease beyond their lives, as tenants in tail for twenty-one years or three lives; and ecclesiastical persons with various corporate bodies have extended demising powers.

Executors and administrators, also parties in legal charge of a bankrupt's estate, may dispose of leaseholds vested in them.

A lease granted by a minor or by his guardian under a will may be voided by the former at his majority; and similarly he may set aside leases to himself.

The rights and liabilities of married women depend on whether they are separated from their husbands, on settlements and on the law generally relating to their own estate, especially as modified by the Married Women's Property Act, 1870, 33 & 34 Vict. c. 93; and the 19 & 20 Vict. c. 120, applies generally to settled and also unsettled estates.

A copyholder's power to grant leases irrespective of the lord's special license rests on the custom of the manor which generally restricts him to terms not exceeding one year on peril of forfeiture. "By special custom," Scriven says, "a copyholder may lease for three or nine years, or more, or from three years to three years, to the term of twenty-one years, or for life and forty years after, or for any other definite period of time, without license of the lord." Leases void as regards the lord are still binding between the contracting parties.

The Naturalization Act, 1870, 33 Vict. c. 14, amended by 33 & 34 Vict. c. 102, provides that real and personal property of every description may be held by aliens.

AGREEMENTS AND LEASES.

Leases may be made by deed, writing or word of mouth. *The Statute of Frauds*, 29 Charles II. c. 3, ss. 1 & 2, requires

that, with the exception of "leases not exceeding the term of three years from the making thereof, whereupon the rent reserved to the landlord during such term shall amount unto two-third parts at the least of the full improved value," leases of tenements or hereditaments shall be in writing signed by the parties or their agents lawfully authorised by writing; and by the 8 & 9 Vict. c. 106, s. 3,—“a lease required by law to be in writing of any tenements or hereditaments, and an assignment of a chattel interest not being copyhold in any tenements or hereditaments, and a surrender in writing of an interest in any tenements or hereditaments, not being a copyhold interest, and not being an interest which might by law have been created without writing, shall be void at law unless made by deed.”

Thus, a lease at a rental of fully two-thirds annual value for three years or less *from the making* may be granted by word of mouth or by writing not a deed; but it is void if made either orally or without a deed for three years from a future day, or from a past date without reserving full rent on the following usual day of payment, or for more than three years, although a proviso in a valid lease for three years for renewing it for another such or for a less term is good. “A lease from year to year,” Mr. Williams observes, “can be made by parol (writing) or word of mouth, if the rent reserved amount to two-thirds at least of the full improved value of the lands; for if the rent reserved do not amount to so much, the Statute of Frauds declares that such parol lease shall have the force and effect of a lease at will only. A lease from year to year reserving a less amount of rent must be made by deed.” Where, as common, annual rent is fixed, but there is neither settled term nor arrangement for notice to quit, this latter must be half-yearly to leave on the recurring anniversary day of entry or letting, an ordinary tenancy from year to year being created.

Agreements for leases, not actual lettings or leases, must,

under s. 4 of the Statute of Frauds, be in writing ; and if it is desired to let without deed at less rent than two-thirds value, or for three years from a subsequent day, the document should be drawn, not as a lease in the present tense but as an agreement in the future tense ; or it may be stated, this instrument is not a lease but an agreement, when it will be so construed notwithstanding words of immediate demise.

Although actual leases for three years or less are incorrectly termed agreements, the latter strictly such, as merely indicating future intention to do or right to have a thing, are inferior to demises in which the thing itself is done. However usual and convenient it may be for parties desirous of at once binding one another to exchange agreements for short or long terms summarising conditions and covenants to be inserted in deeds prepared by a solicitor, execution of the latter should never be long delayed.

"I crave our composition may be written
And seal'd between us."

For even after possession under agreement for a lease not amounting to actual demise, there is but a tenancy at will ; and after payment of yearly rent in account only a tenancy from year to year upon applicable terms of the intended lease subsists at law, while the landlord usually cannot distrain before payment of some rent ; and although equity may enforce the contract or an action for damages may be brought for its non-performance, if the lessor afterwards disposes of the lease to a person ignorant of the prior proceeding, the latter, as having a superior title, will not be precluded from ejecting a tenant simply by agreement.

With regard to taking possession Jarman says:—"Although a parol (written or oral) lease for term of not more than three years, *executed by entry*, is good as a lease under the second section of the Statute of Frauds, yet until so *executed, it is a mere contract* within the fourth section

for the non-performance of which no damages can be recovered." Entrance under a void lease or agreement creates diverse difficulties. A void lease may operate as an agreement; and either lease or agreement may initiate tenancy at will enuring into such holding as mode of paying rent settles, other stipulations often applying so far as they consist with the tenure. A tenant by sufferance comes in by right and holds over by wrong; while a tenant at will (that is, during joint will of parties) holds by right. Lodgers are generally subject to the same regulations as other tenants respecting possession, paying rent, &c.

On death of a tenant, his executor or administrator takes his interest; and representative capacity is not affected by the testator or intestate being either landlord or tenant.

Before engrossing a lease, drafts are supplied for consideration; and afterwards two instruments are prepared: the *lease* signed by the landlord and given to the tenant, and the *counterpart* signed by the tenant and given to the landlord; but the latter is called a *duplicate* if both parties sign each instrument.

Equity relieves against fraud and mistakes in deeds; and the lessor can compel the lessee to permit him to examine the lease.

A plan is desirable in a lease as well as in a conveyance.

UNDERLEASES.

Before agreeing for a lease it is important to know whether the landlord owns the freehold or a lease; for in the latter case and if the term to be granted is less than the grantor's the instrument will be only an underlease. The proposed tenant should therefore ascertain the contents of the lease, as non-observance of stipulations by his landlord or himself (however the former exempts the latter regarding some) may involve ejection; and

restrictions respecting trade or alterations might render premises useless to him. Again, leases sometimes include other property, any tenant of which may occasion forfeiture of the whole; and a ground rent on say three houses can be distrained for in any one.

At least a day less than the landlord's term is reserved in underleases to secure a reversion empowering distraint; and there is also inserted a provision for re-entry if the tenant fails to keep covenants and conditions, but without prejudice to the landlord's other legal rights.

The fact of a lessee underletting does not affect his liability to the lessor; and between the head landlord and the underlessee there is no privity of contract or estate.

While a covenant against assignment solely will not prevent underleasing, one restraining underletting has been held broken by assignment; but the lessor impliedly waives forfeiture by accepting rent after knowledge of breach. Letting lodgings or depositing deeds by way of equitable mortgage or assignment by operation of law, as on bankruptcy, does not contravene the above covenants. "If," says Platt, "a landlord have a covenant against both assigning and underletting, the tenant by an agreement, neither assigning nor underletting, may put another person in possession of the premises without being guilty of a breach." Whether a second person appearing as tenant evidences underletting is doubtful: for instance, he may be put into a shop to sell on commission.

Sometimes, but rarely, instead of inserting penal covenants in deeds, separate bonds conditioned for performance of obligations and with or without sureties are executed by the respective parties (also in assignments) but commonly only by the under tenant.

ASSIGNMENTS.

Assignment is conveyance of the whole interest in a lease; and an underlease for the lessee's full term, or for more than it, or for all his term reserving rent and power of entry for non-payment to him and not to the original lessor, in each case amounts indirectly to assignment. If additional rent is desired, underleasing is chosen.

While an original lessee not entitled to assign continues during the term to be answerable to the lessor, an assignee, or one who took by assignment, is commonly responsible only until he frees himself by fresh assignment, continuing however liable for breaches of covenants during his possession; and it is desirable for lessees to ascertain whether assignees are likely to observe covenants or compensate them for prospective breaches.

An assignor covenants: that the lease is valid; that covenants have been kept; and that he has power to assign, free from incumbrances; also for quiet enjoyment and for further assurance. An assignee covenants: to pay rent; to observe covenants; and to indemnify the assignor for breaches by himself or assigns. Where, in avoidance of obligations, assignment is effected to a pauper assignee who fails to keep covenants, the assignor may yet be liable under a covenant to save harmless from breaches by himself or assigns his, or the prior, assignor, if he so took from a party who can be found, and who may be or not the original lessee.

SURRENDERS.

Surrender is entirely yielding up a lease to the immediate landlord and its acceptance by him.

By the Statute of Frauds, s. 3,—“No leases, estates or interests, either of freehold or of term of years, or any

uncertain interest not being copyhold or customary interest, of, in, to or out of any messuages, manors, lands, tenements or hereditaments, shall be assigned, granted or *surrendered*, unless it be by deed or note in writing, signed by the party so assigning, granting or surrendering the same, or their agents thereunto lawfully authorised by writing, or by act and operation of law." The 8 & 9 Vict. c. 106, s. 3, before quoted, requires certain surrenders to be by deed.

Thus, cancelling a lease by word of mouth is not a surrender within the statute. Even in the case of yearly tenancy a memorandum is essential; but entrance of a second tenant in consequence of oral arrangement between the landlord and the former tenant who yields possession may constitute a valid surrender by operation of law. So, granting a new lease to the same tenant although for less time than the old one, or with his consent to another tenant, impliedly annuls the original instrument; but no surrender voids a prior underlease.

Surrenders should be in duplicate; but sometimes like assignments they are executed by indorsement on the deed or agreement and at less cost.

COVENANTS AND CONDITIONS.

The covenants, conditions and provisoes in leases are simply the stipulations between respective parties.

A *covenant* is an agreement by deed whereby a person undertakes or promises that something is or shall be done; and a *condition*, whether by deed or otherwise, is a restriction, as the contingent terms on which a grant is made. A *proviso* is generally taken for a condition, but is always expressed while the latter may be implied.

Covenants are usually construed against the covenantor *and for the covenantee*, especially where there may be

several meanings. As covenants can only be created by deed, so they cannot be discharged before breach otherwise than by deed.

Real covenants pertain essentially to and run inseparably with the estate, binding assignees and reversioners; and with conditions are either in fact as expressed or in law as implied from the nature of the grant; as in the latter case by the lessor for quiet enjoyment, &c., and by the lessee to pay rent, &c. *Personal* covenants pertain to an individual, not running with the land; as to pay money or to build; but the latter will continue in a building lease.

Although some covenants are invariably implied in the absence of express ones on the same points, the latter are specified with the twofold object of adding security on the one and limiting liability on the other side.

A forcible example of this species of "double dealing" is afforded by covenants for quiet enjoyment. As usually framed, the lessee is to hold without interruption from the lessor or parties lawfully claiming *under* him; and it is manifest that a lessor who has no title may safely and sardonically undertake such responsibility. But if, instead of an express covenant clearly indicating the lessor's intention there is no covenant for quiet enjoyment, he impliedly guarantees to save the lessee harmless against all persons whether claiming title under or *above* his own. Still in neither case is the former concerned with wrongful acts of third parties having no legal or equitable claim. If the lessor will neither (and it would be exceptional if he did) enter into an unqualified covenant nor omit reference to it, and the lessee specially desires to avoid risk, as when proposing to build, he should insist on investigation of title.

When an agreement stipulates that a lease shall contain the "usual covenants," instead of an abstract of those intended being inserted, the question what is usual may

have to be decided by a jury, taking into consideration custom of the country or regarding similar leases. For instance, covenants in restraint of trade in a trade locality, or preventing assignment or underletting, will not generally be interpreted as understood in agreements for usual covenants.

“Let specialties therefore be drawn between us,
That covenants may be kept on either hand.”

A covenant that a house is to be used only as a private dwelling and no trade or business is to be exercised thereon is broken by opening a school. “Every trade,” Lord Denman remarks, “is a business, but every business is not a trade;” and keeping a lunatic asylum does not imply the latter, such relating to buying and selling. A covenant not to carry on offensive trades must be considered in reference to neighbourhood. One not to conduct a business for a certain period without regard to locality is void as in restraint of trade. Distance is measured in a straight line. An engagement to renew a lease with the same provisions does not include a third renewal, unless unequivocally expressed, and constituting practically a perpetuity. In the absence of stipulation, the option of determining a lease granted for 7, 14, 21, or other alternative years, is in the lessee.

As actions for breach of covenant often result in slight damages which do not compensate the landlord, as where a favourite tree is felled and he obtains its value only as timber, or where it may be desirable to preclude costly litigation by prospective settlement of amounts payable in certain cases, a penal sum or rent is stipulated to be recoverable as *liquidated damages*, or such as are fixed by previous agreement. Although the sum may not cover *the depreciation* or injury and no more can be obtained, *there are the advantages* in such damages that equity will

not relieve against them, a jury must find for the amount and they can be distrained for, it being otherwise with penalties. Where there is no penalty or damages are unliquidated claims must be proved in evidence.

FORMS.

Although the law does not seem to have appropriated technical phrases as absolutely necessary to constitute covenants and conditions and it appears any words will be effectual that show the parties' concurrence, it is desirable to adhere to some established forms of legal language; and stipulations may follow as in the skeleton scheme below of an indenture of, and memorandum bracketed of an agreement for, a lease.

This indenture (or agreement) made the — day of — between A. B. of — and C. D. of — Witnesseth, that A. B. demises (agrees to grant a lease) unto C. D., his executors, administrators and assigns (of) the house numbered 1 Speculation Terrace in the parish of Lilliput in the town of Utopia, together with ground and appurtenances belonging thereto delineated in the marginal plan coloured green. To hold the premises from — for the term of — years, rendering therefor the yearly rent of £— clear of taxes, rates and deductions, except ground rent and property tax, in equal portions on the four usual quarter days, the first payment to be made —. And C. D., for himself, his heirs, executors, administrators and assigns, (agrees to take a lease as above with) covenants: to pay rent, to pay taxes, to keep in repair, to paint outside every third year and paint, white, colour and paper inside every seventh year, to insure in joint names of A. B. and C. D. and to show policy and receipts, to rebuild on destruction by fire or otherwise, that A. B. may enter to view state of repair, that C. D. will repair according to notice, that C. D. will not use premises as a shop, &c., or assign or underlet without written permission, and that he will leave premises in good repair, with proviso for re-entry by A. B. on non-payment of rent or non-observance by

C. D. of covenants, and covenant by A. B., for himself, his heirs, executors, administrators and assigns, for quiet enjoyment. (And this is to be an agreement only and not an actual lease.)

In witness whereof the said parties have hereto set their hands and seals the day and year first above written.

Signed, sealed and delivered by the within named — in the presence of solicitor or clerk. Receipt for money is also added on lease.

(To agreement, there being no sealing and delivery, witness to the signature hereof by —)

The next form is applicable to tenancies for three years or less periods, and may be modified for most purposes.

Agreement made this — day of — between A. B. the lessor (or landlord) and C. D. the lessee (or tenant).

The lessor lets and the lessee takes the premises — for the term of three years from the (date of this instrument, making the quarter days accordingly on the successive dates) at the rent of £100 per annum, payable on (as above or on the usual quarter days if tenancy begins from one of them) without deduction, except ground rent and property tax, the first quarterly payment of £25 to be due —

[Or, A. B. lets and C. D. takes the premises from (date) for (one year) and afterwards (from year to year or quarter to quarter) until the tenancy is terminated by either party giving the other (six or three months') written notice to quit (in the first or any following year; or on any usual quarter day)]

[Or, from (date) from year to year; or by the year, half-year, quarter, calendar month, or week, until, &c. If let at any broken period, except that on the next pay-day only £— shall be due.]

The lessor shall be entitled, with workmen or others, at all reasonable times to enter on the premises for any reasonable purpose.

The lessee shall not assign or underlet the premises without the lessor's previous written consent, nor make any structural addition or alteration without such previous written consent, *nor suffer any trade or manufacture to be exercised upon the*

premises, nor do or permit to continue any waste or damage, or anything which may be an inconvenience or annoyance to neighbours, or which may render void the lessor's insurance; and when tenancy ends he shall deliver up the premises in the same repair and condition as they are now in, reasonable wearing and accident by fire excepted, but without liability to amend damage done otherwise than by himself to the walls or roofing.

If the lessee neglects to pay rent (when) within fourteen days after it is due or violates any of the above stipulations, the lessor shall be entitled to enter upon and repossess the premises as if this agreement had not been made but without prejudice to his other legal rights. In case the premises are burnt down or damaged by fire so as to render them unfit for habitation, the rent reserved or a proportionate part according to injury shall be suspended until they are made fit for habitation.

(The lessor also agrees that the lease shall be renewable for a further term of three years from its expiration on six calendar months written notice accordingly by the lessee.)

(This instrument is only an agreement for a lease and not an actual lease.)

As witness their hands.

A. B.

C. D.

Witness E. F.

REMEDIES AT LAW FOR WRONGS.

On breach of covenant in a deed, an action of *covenant* for damages may be sustained; as against the lessor for breach of covenant for quiet enjoyment, &c. ; and against the lessee for breach of covenant to repair, &c.

If letting is by word of mouth or writing not under seal, an action of *assumpsit*, or on promises, or, as it is sometimes called, on the case, founded on contract either expressed or implied at law, is the usual procedure for damages, &c. ; and it may be brought after entry and payment of rent although the agreement or lease is void; also

for quiet enjoyment, indemnity against charges, non-repair, not yielding possession, &c.

One variety of assumpsit is for *use and occupation* where defendant held premises as plaintiff's tenant, or where he has been or is in possession, not adversely as a trespasser but by sufferance, when reasonable rental although none has been fixed is implied and may be recovered. This form of action lies against a person put in possession by a former tenant, or for occupation under agreement for a lease, or against a tenant where he or his sub-tenant remains after the term without fresh agreement.

Where no general action could well be framed beforehand, the ways of injuring being so various, a special action on the *case* may be brought. It lies for slander or denial of title, in the nature of waste, for breach of duty, for private nuisance, for illegally removing fixtures, for obstructing ancient lights, and for excessive, irregular or illegal distress. Action of *trespass*, besides being the remedy for wrongful ejectment, also applies to irregular and, with *trover* and *detinue*, to illegal distress, action of *replevin* being however the general remedy in the last instance and by which the tenant may get back his goods.

An action of *debt* for rent may be brought where the landlord cannot distrain; but the procedure is limited from time of claim or written acknowledgment, as before mentioned.

A vast variety of wrongs may be comprised under action for *damages*; but it is often less desirable than procedure in ejectment where there is a proviso for re-entry on breaches because of difficulty in fixing precise loss.

Actions of *ejectment* are brought in the county (rent not exceeding £50 per annum and no premium having been paid) and superior courts of law for possession of premises not delivered up on expiry of tenancy; and occasionally forcible possession is legally taken. Right to

re-enter on a stipulation for forfeiture, actual entry being rarely made, is also ground for the above action; but except in cases of non-payment of rent which does not exceed £50 per annum and half a year is in arrear, when the county court is resorted to, it must be instituted in a superior court; also where title is disputed.

Although forfeiture may be incurred impliedly at law it is usually provided for in contracts. Woodfall observes that,—“Upon the breach of any condition, the lessor or his assigns may re-enter or maintain an ejectment, without any express proviso for re-entry. But a mere breach of covenant, not fortified by a proviso for re-entry applicable to such covenant, will not enable the lessor to enter or maintain ejectment during the term, but only an action for damages. There is a distinction in the case of a lease for years between a clause, by which, on a breach of covenant, the lease is made absolutely void, and a clause, which in such case merely gives the lessor a power to re-enter; in the former case, the term is absolutely ended by a breach of contract, and cannot be set up again by any act of waiver of the forfeiture; in the latter case, however, as the lease is merely voidable, it may be affirmed by the acceptance of rent accrued afterwards, or other act, if the lessor had notice of the breach of contract at the time.” So that a landlord who purposes taking advantage of an act or omission involving forfeiture, can scarcely be too careful in avoiding anything which may amount to waiver of or making him party to it; as acknowledgment of continuing tenancy by distraining for or receiving rent accruing after breach. At the same time, he must not remain passive without indication of intention to proceed ultimately; but of course the lessee has not similarly an option allowing him his own way on both sides of the matter.

With regard to the operation of active, affirmative or compulsory and passive, negative or restrictive covenants; power

of re-entry in case the tenant *does* certain things will not extend to things not done; and, conversely, power to re-enter in case the tenant *does not* do certain things will not extend to things done. License to one person on one subject is inapplicable to another person or subject whatever the connection.

Where a lessee covenants to repair under penalty of ejectment, not doing so is continuing forfeiture, which is not waived by the lessor allowing more time or receiving rent meanwhile; neither will action of ejectment for not executing repairs be stayed because they are done when it is tried, nor will equity interpose.

Magistrates have summary power to remedy various wrongs touching tenancy.

Thus (2 & 3 Vict. c. 71), within the metropolitan district, the tenant may take proceedings for unlawful, irregular or excessive distress where he occupies by the week or month, or where rent does not exceed £15 per annum; and police magistrates can also (same statute) order tenants to pay compensation not exceeding £15 for wilful injury to premises or furniture on complaint within one month of offence or end of occupation.

Justices generally are empowered (1 & 2 Vict. c. 74) to give possession of premises, not exceeding £20 a year without fine, which parties neglect or refuse to yield up on determination of tenancy by notice to quit or otherwise; and they are also enabled (11 Geo. II. c. 19, 57 Geo. III. c. 52 and 3 & 4 Vict. c. 84) to restore possession of deserted premises where half a year's rent is owing and there is not property to cover distress.

REMEDIES IN EQUITY FOR WRONGS.

Equity affords a remedy for many wrongs which cannot *otherwise be redressed*, and will thus frequently interpose

where breach of covenant involving forfeiture is or can be fully rectified, or where just amount of compensation is not doubtful but clearly ascertainable, particularly where the breach has resulted from surprise or fraud on the part of the landlord, or from accident, inadvertence or ignorance on that of the tenant, but not where there has been wilful default or obstinate neglect by the latter, except for failure to pay a determinate sum, as rent.

The court goes beyond the substantial consideration whether compensation can or cannot be made to whether damages are certain and admit of precise calculation, instead of being more or less contingent on various circumstances; and thus commonly refuses relief against forfeiture through dilapidations, because, although works may have been ultimately executed, it is unable to estimate injury so accurately as to be absolutely sure of putting the landlord in as good a position in all respects as if repairs had been performed at the proper time.

On analogous principles, the circumstances must be remarkably special in favour of the lessee to induce equitable interposition in cases of breaches of covenants to cultivate in a specified manner, to expend a fixed amount within a certain period, not to assign or underlease, or in similar instances where a power of re-entry exists; and the question of liquidated damages being excessive will not be entertained, except, it may be presumed, in some cases where they are monstrously unreasonable.

Relief against forfeiture from non-insurance may be obtained where no damage has occurred and the omission was inadvertent without gross negligence or fraud and is remedied when application is made; but the lessee cannot be twice relieved.

Relief is granted against forfeiture of copyholds on similar principles as regards leaseholds.

Sometimes, instead of proceeding for forfeiture a bill in equity is filed for specific performance of a contract;

but, as is the practice concerning covenants to repair, the judge may refer plaintiff to his remedy at law.

Where there is obvious or apparent intention to do any inequitable thing, causing irreparable or serious damage, as injuring premises by committing waste, pulling them down, making alterations, removing fixtures, &c., chancery will issue an injunction, or prohibition, which however may be either sustained and made perpetual or be dissolved. Where operations are begun or the wrong is consummated, an action for damages is sometimes preferable. Injunctions may be sought, not only during sitting of the court but wherever the judge can be found; and Mr. Hunter mentions a case in which aid was obtained in little more than two hours after need arose; a startling exception to "the law's delay."

TAXATION.

GENERAL OBSERVATIONS.

Taxes and rates may be of two classes : the queen's or parliamentary, including those on property, land and houses, imposed directly by the legislature; and the local or parochial, as poor, sewer and general rates, levied by local or parochial authorities.

Arrears of the former, being charges on *property*, may be distrained for on new tenants, while arrears of the latter, being charges on *persons*, are not claimable (except sometimes when assessed on landlords) from fresh tenants, but who may have to pay an apportionment from possession. Otherwise, householders are, as a general principle, liable in the first instance, but, in the absence of stipulations, may deduct outgoings hereafter stated as falling on landlords, doing so from sums due in the current year or there will be no remedy.

Poor rates cannot be distrained for without a justice's warrant after summoning the person liable, who in default of sufficient distress may be imprisoned; and by the 17 Geo. III. c. 38, s. 7, goods may be levied by warrant, not only where the assessment was made but in other places. A penalty is incurred by removal without paying queen's taxes.

A covenant to pay parliamentary and parochial taxes and rates does not apply to sewer rate, nor to a rate for improvements under a local Act, neither coming within the above clause. The question whether in covenants to "defray all taxes, rates, duties, assessments and impositions whatsoever, except landlord's property tax" the word

impositions extends beyond charges in the nature of taxes and rates to payments for paving or sewerage the adjacent street, &c., depends, not only on the construction of the covenant but also on that of the statute authorising works, opposite decisions having been given in cases thus distinguishable. It will be safer to incorporate the words, "present and future charges, whether of the same or of a different nature from those in existence," to fully secure the lessee's payment of entirely novel imposts; and then a subsequent statute authorising special deduction would not abrogate the covenant. Where premises are so enlarged as to increase taxes the landlord agreed to pay, he is liable only on the proportion his rent bears to higher value. He may sue, or if there is such proviso, proceed in ejectment against a tenant who fails to discharge assessments falling on him.

KINDS OF TAXES AND RATES.

Property or *income* tax invariably pertains to the landlord notwithstanding contrary contract; and if the tenant is forced to pay he can recover the amount, unless where tenancy continues he omits deduction from the first payment of rent, when refusal to allow it subjects the landlord to a penalty of £50.

Land tax, first passed in the reign of Charles II. and annually from that of William III., was made permanent by Pitt in 1798, subject to redemption and purchase, which can now be done only by a person having an interest in the estate, and who may thus, when improvement or building is contemplated, avoid re-assessment at improved value. According to the Acts, as the land is the debtor in the hands of the occupier and the tax can be recovered by distress on it, he is first to pay the impost and deduct from rent, but not the latter if otherwise contracted. A tenant covenanting or agreeing orally to discharge all taxes must pay land

tax, even if belonging to a third party; and an agreement for a lease with common covenants includes liabilities for this impost.

Tithes in kind, or the tenth part of yearly increase or profits from cultivation of land, are commuted into a half-yearly tax called the *tithe commutation rent charge*, payable where parsonage or vicarial to the rector or vicar of the parish, or if sold out of the church to the lay impropriator, and recoverable by distress on the land, neither landlord nor tenant being personally liable, from whoever is in occupation, to the amount of two years' arrears. Land may be tithe free, as by custom or prescription, or from originally pertaining to monasteries or spiritual persons; and the charge can sometimes be redeemed. In the absence of contrary agreement, the landlord must allow his tenant the sum paid. Tithe charge levied on a plot of land on which several houses are built is often claimed in full from occupants successively, as the amount can be distrained for in one house; but the commissioners will endorse an agreement for fair apportionment.

House duty is borne by the tenant, arrears being recoverable from whoever is in possession; but it is only due on inhabited premises. The 32 & 33 Vict. c. 14, s. 11, enacts that, a tenement or part of it occupied for trade only, or as a warehouse, shop or counting-house, shall be exempt from duty although a person dwells there for its protection.

Poor rate, so far misnamed that it includes county, police and other extraneous charges, is levied on the tenant because of his occupation; and it commences from entry. The Reform Act, 1867, 30 & 31 Vict. c. 102, provides that;—"Where the dwelling house or tenement shall be wholly let out in apartments or lodgings not separately rated, the owner of such dwelling house or tenement shall be rated in respect thereof to the poor rate." By the 32 & 33 Vict. c. 41, occupiers for terms not exceeding three months may deduct from rent poor and other rates made by the overseers

if they have not otherwise agreed; and the overseers may rate owners instead of occupiers of houses whose rateable value does not exceed £20 in the metropolis and lower sums elsewhere, but allowing commission to owners.

Consolidated rate, required by the Metropolitan Board of Works, comprehending fire brigade, main drainage and general improvements, is assessed partly on landlord and on tenant, main drainage, for instance, falling on the former; also mostly the local *sewer* rate.

General rate, comprising highway, paving and sanitary works, also school board expenses, and sometimes lighting, usually falls on the tenant.

Church rate, for repairing the parish church, &c., assessed on the same basis as poor rate, is due from the occupier, but is not compulsory since the 31 & 32 Vict. c. 109.

Water rate is payable by tenants of houses exceeding £10 annual value: otherwise by landlords.

As to *times of payment*, poor rate is due three or four times, general and water rates twice, and remaining assessments commonly once a year.

Respective liabilities of landlords and tenants may be learnt at the Vestry Hall or from other authorities; and payment of arrears is ascertainable from collectors; but an indemnification can be obtained from the landlord.

Amounts of taxes and rates with further particulars are given in the *Second Division*.

DILAPIDATIONS.

INTRODUCTORY ELUCIDATION.

The reader must not expect absolutely precise information upon this battle-ground. It is indeed a fertile field for disputes among surveyors culminating in contradictory decisions in the courts; and most tenants are as utterly unaware of the variety and extent of their responsibilities as of the singular judicial "maxim" excusing ignorance of fact, or limited points on which juries may entirely agree, but not ignorance of law, or unlimited problems on which judges may entirely differ. Waste, according to "that narrow-minded, bad-hearted pedant," as Macaulay terms the *grand* legal luminary Lord Coke, even in his day abounded with a multitude of conclusions and manifold diversities between cases and points of learning, with a variety almost infinite of authorities, ancient and modern, and other difficulties only to be conquered by him who gives up his whole soul to its study. Two centuries afterwards, Elmes confirmingly notices how the cumulative complications on the subject gave rise to opposite opinions among men of talent in their profession. More recently, in the able if not altogether correct "Report on Dilapidations" issued by the Institute of British Architects, the council confess,— "that it has not always been possible to define the principles upon which these valuations are made in such a manner as to render them certain in their application. For example, the liability of the tenant to certain dilapidations is made contingent upon their having arisen from *neglect*. On this point alone a wide field is open for dispute, and the interpretation of the common phrase 'reasonable use and wear' remains an unfailing source of

contention." What is now too obvious was also then fairly recognised, that expositions "but partially overcome" dilapidation difficulties, the law itself being "often unjust and inequitable," while ordinary repairing leases "notoriously afford a pretext for great injustice and extortion." Here, therefore, quotation will be freely made from various acknowledged, however differing, authorities, in order to assure, so far, such security as may be attainable under an inconsistent system. Emphatically, in English law, the most stupendously entangled web that human spiders ever wove, at which continually intellect blushes and morality shudders, "life is spent and the judgment is warped in reconciling real and factitious principles," all the subtlety of the serpent finding suitable scope to—

"—make the worse appear
The better reason, to perplex and dash
Maturest counsels ;"

and to fuse, or further confuse, what is heterogeneously discordant in a mesh where, ever and anon, two and two seem to shift into five in one significance or six in another, and right, or what ought to prevail, is repeatedly nullified by obsolete customs, or antiquated, vague and contradictory statutes, or by abnormal, arbitrary and capricious *judge-made* "precedents." "It is a maxim among the lawyers," Dean Swift says, with only such exaggeration as sharpens sarcasm, "that whatever has been done before may legally be done again ; therefore they take special care to record all the decisions formerly made against common justice and the general reason of mankind ; and these, under the name of *precedents*, they produce as authorities to justify the most iniquitous opinions." Elsewhere, in the "Draper's Letters," arguing most moderately, he observes,—"Nothing has perplexed me more than this doctrine of *precedents*. I have been told by persons eminent in the law that the worst actions which human

nature is capable of may thus be justified." But, while few things are easier than litigation touching dilapidations, few things are more difficult if, disregarding tumid technicalities, utterly perverting the understanding or "converse with things themselves," and whose object too often is, as Chief Justice Erle once observed, to prevent justice being done, both parties are actuated by plain principles of (unforensic or extra-judicial) equity, by moderation and good sense. For, "Law is a bottomless pit; it is a cormorant, a harpy that devours everything."

The terms *waste* and *dilapidation* both relate to the condition of property, as regards alterations, &c., otherwise, and as regards repairs, &c., worse than it ought to be under express or implied terms of tenure; and where it becomes injurious to a stranger or the public, the subject comes under the head of *nuisance*.

Waste applies to the *act* or omission; and dilapidation to the *thing* done or omitted.

NATURE OF WASTE.

Waste, or something prejudicial to the inheritance, reversion or estate, as unnecessarily diminishing value, increasing burdens or impairing evidence of title, is either *voluntary*, the commission of wrongful acts, as destruction, alteration, &c., or *permissive*, the omission of rightful acts, as neglecting reparation, thus suffering decay, &c. The whole subject is resolvable into alteration, accident and neglect.

Sometimes a tenant holds "without impeachment of waste," that is, with a protection or provision that he cannot be sued for it, and which removal of restraint renders him free to do what would never be tolerated at common law. Still the meaning of the clause cannot be so extended as to allow spoil and destruction of the estate, but only to excuse permissive waste; and

although the tenant may open mines, dig clay, &c., and in a prudent manner fell timber for his own use, he must not cut ornamental or sheltering trees, much less destroy or deface the house, or what is palpably intended to be permanent, or otherwise commit malicious damages, all of which constitute the doctrine of *equitable* waste, as only recognised in a court of equity, which will grant an injunction in restraint, and also direct compensation and enforce repair.

The following are examples of the three generic kinds of waste, relating to buildings, trees, land, &c.

Pulling down buildings or portions, or suffering them to be uncovered or exposed whereby damage ensues. Rebuilding otherwise or smaller or larger than before, or where there was no structure; for although the last may enhance value of property, it will be more charge for the lessor to repair. Altering arrangement or construction, removing partitions or landlord's things affixed, or wilfully injuring any parts of premises; making new openings for windows or doors or blocking-up old ones; turning one kind of building into another, as a dwelling room into a stable or shop, a factory into a dwelling, or otherwise changing the nature of the subject demised and affecting evidence respecting it, although an improvement.

Felling, topping or lopping so as to cause decay trees which are considered timber, except sometimes for necessary repair; but the underwood may be cut (not stubbed) at seasonable times, together with dead wood. Cutting trees which serve for shelter, exclusion or ornament. Removing or injuring fruit trees in an orchard or garden. "Nor can the tenant of a pleasure garden," says Gibbons, "remove trees, ornamental hedges or shrubs, or a border of box, although planted by himself, such things being intended to be permanent; nor can he plough up a strawberry bed before it is exhausted. There is no authority for saying that a tenant is under any positive obligation to

cultivate a garden or orchard : the cases only establish a negative obligation against voluntary waste."

Opening land for new mines. Except under special circumstances, digging for gravel, clay, lime, earth or stones in pits not already open or usually dug, whether or not they are afterwards filled up. Alterations affecting evidence of character or boundaries. Diminishing permanently value of land, or cultivating contrary to implied obligation to farm generally according to the custom of the country. Converting wood or pasture into arable, a meadow into an orchard, and conversely. Not repairing banks so that land is flooded. Unduly diminishing stock of game, fish, doves, pigeons, &c.

Damage from tempest, lightning, public enemies or the act of God is not legal waste ; but the tenant's liability depends on his holding.

PARTIES LIABLE.

Owners in fee simple, without incumbrance or charge upon the property, being accountable to no one, may of course (or it may be put cannot) commit waste or dilapidation ; and so generally with tenants in tail, as having estates of inheritance. Tenants for life must keep premises in substantial repair, and if without impeachment of waste can cut timber for their own use, open mines and do other waste as with estates of inheritance, but may be restrained by chancery from despoilment or destruction. There must be a custom to enable copyholders to commit waste without license. Ecclesiastics, as holding for the benefit of the church and their successors, cannot commit waste, but may fell timber and quarry stone for repairs. Tenants by curtesy, or in dower, ordinary leaseholders and others of less estate are precluded from committing waste. Action of waste is maintainable by one tenant in common against

another; by the heir for damage done in his ancestor's time; and against a life tenant by one having the immediate inheritance in remainder or reversion. Mortgagees in possession are bound to execute essential repairs to prevent undue deterioration, and may not alter, but can rebuild premises to prevent forfeiture; generally, they must not fell timber.

NATURE OF DILAPIDATIONS.

It is purposed to consider only civil, or lay, and not ecclesiastical dilapidations.

The simplest definition of dilapidations generally is, whatever condition premises occupied by another person than the owner are in worse than they ought to be, reasonable wearing excepted, under expressed or implied terms of tenancy.

Dilapidations, as indicated under waste, are *commissive* or *permissive*, implying active or passive deterioration; and repairs and reinstatements are *substantial*, relating to main construction, carcass or skeleton of buildings, the walls, timbers, roofs, &c.; and *tenantable*, relating to finishings, fittings or fixtures, the windows, doors, ironmongery, plastering, painting, papering, &c.; and generally to keeping buildings habitable without substantial repairs. The former include work by the bricklayer, mason and carpenter, and the latter by the joiner, plasterer, painter, glazier, &c.

What defects amount to dilapidation depend on the nature of tenancy, common and canon law, some statutes, customs of districts or estates, covenants and conditions, and various incidental circumstances.

An important distinction usually arising is that between *accident* and *wear*; and with regard to *extent* of wear, a covenant or implied condition to maintain and repair is not one to *improve* but only to *preserve* property. Mr. Joseph

Woods, whose few words, written in 1807, seem still to constitute him the most sensible authority on the subject, observes that ;—"Fair wear without accident is not a dilapidation ; but wherever there is any degree of accident it is one. The difference between accident and wear appears to be that the latter takes place gradually and insensibly, the former suddenly and perceptibly ; thus the nosing of a step may be quite worn away and it shall be no dilapidation ; but if from any cause whatever the nosing have been broken away, instead of worn, it is a dilapidation. Wherever accident has taken place, not only the accident itself is a dilapidation, but all injuries arising to the building therefrom. If a building be covered by weather-boarding, and this decay by age, as long as it forms an entire and complete covering, it is no dilapidation ; but if it be broken or fallen down in any part, it is a dilapidation ; and if, owing to a neglect of repairing it, any internal work be injured, this injury is a dilapidation, although no further accident takes place, for it is a consequence of the first accident. If a timber decay, supporting any part of the house, it is not chargeable as a dilapidation, as long as it continues a sufficient support ; but if it give way, the tenant is bound not only to replace the timber, but also to repair all the damage done by its fall. If anything decay for want of attending to the coverings, it is to be considered as a dilapidation, even if no accident can be supposed to have taken place. Any decay arising from the neglect of painting is a dilapidation." In fine, the tenant must maintain parts in efficiency for their purposes ; and although "wear and tear" are commonly conjoined, *tear* is strictly and legally as much dilapidation as breakage or accident.

Leases commonly contain a covenant by the lessee in effect that, he will well and sufficiently repair, maintain, cleanse, paint, glaze, and keep present and future erections with all needful reparations and amendments whatsoever

as often as occasion shall require ; paint outside once in three or five years and inside once in five or seven years ; and at the determination of the term yield up the premises with additions and appurtenances in good and sufficient repair and condition. The Institute Report states that under such a covenant,—“Dilapidations are, in usual practice, considered to be those defects only which have arisen from neglect or misuse ; and not to extend to such as only indicate age, so long as the efficiency of the part still remains. But if the effects of use or age have proceeded so far as to destroy the part, or its efficiency in the structure, this argues neglect or misuse ; it being the presumption that at the commencement of his term, the tenant was satisfied that every part was sufficiently strong to last to its close.” Further, the lessee is “bound to maintain the efficiency of every part of the premises demised as of those erected during the term, either by simple repair, or, where decay, injury, &c., has proceeded so far as to render it impossible for any repairs to maintain or restore the part to its proper usefulness, then by renewing it altogether.”

Thus some obligations are obvious, while on others differences on what amounts to neglect and constitutes reasonable wear must arise. So also, with regard to injury by accident, the question how far this proceeds from neglect is to be considered.

The following specification illustrates a few matters arising under the covenant quoted ; but in actual schedules, dilapidations in respective rooms and offices, beginning with the topmost floor, next going outside, are specially named, concluding with a comprehensive clause.

Rebuild unsafe, cut out and repair loose, broken and cracked, and make good defective brickwork. Point open joints. Relay sunk and restore broken paving. Examine roof, refix loose and replace cracked chimney pots, tiles and slates ; strip and relay *sunken parts of roofing*, furring-up below and restoring broken

laths. Make good filleting. Cleanse and repair drains and cesspools.

Repair unsound, reset loose and replace broken stonework. Make good pointing. Piece, if sufficient repair, stone steps, landings, &c. Relay sunk paving, slabs and hearths, or replace if cracked. Make good chipped or broken and reset loose chimney pieces : remove stains.

Replace broken timbers, examining those out of sight, boarding, floors, beads, nosings and split panels; also sills, skylights, sashes, doors, rafter feet, and woodwork generally, decayed from want of paint or improper exposure; secure loose parts. Fir straight and relay neglected, sunken flooring. Ease misfitted sashes, shutters and doors. Replace broken or deficient beads, balusters, sash lines, &c. Make good all misused joinery.

Cut out and reinstate bulged or defective lathing and plastering. White or colour as before where defaced. Restore missing enrichments.

Refix, redress or solder loose or defective lead or zinc of flats, gutters, flashings, &c., relay where sunk and replace where deficient. Put in order W.C.'s, pumps, traps, cisterns, pipes, cocks, &c.

Examine, clean, repair, refix or reinstate defective or deficient ironmongery and ironwork. Readjust and put in order gates and fastenings.

Prepare and renew with at least two coats worn off or blemished *internal* painting and graining (under general covenant to repair although not specially named) in portions or wholly as requisite; but if lately executed and not misused, only clean where necessary. Paint *external* work where usual or essential to prevent decay (even in absence of particular covenant) and renew where defaced. Paint new as corresponding work; and keep up painting first executed since demise.

Make good loose, torn and soiled paper and canvass; also varnishing.

Reinstate broken or cracked glass in superior rooms and to doors, and in inferior rooms all squares with one large or two small cracks. Cut out and make good perished puttying. (Glass merely cracked is not dilapidation in absence of general covenant.) Repair lead and iron lights.

Put in order garden, grounds, walks, land drains, fencing, gates and other appurtenances.

Make good all deficiencies and restore whatever is removed or wanting. Do all such further work as may become necessary upon execution of the above, or as is required by the covenants of the lease.

LIABILITIES UNDER STIPULATIONS TO REPAIR.

Quoting Gibbons, there is an important distinction between implied liability at common law (betwixt which and common sense there is often no close connection) touching waste and express liability by covenant. "The obligation imposed by the covenant to repair differs from the common law obligation against permissive waste in this. The common law obligation is merely to guard the fabric of the building from decay, and is not infringed by an external dilapidation unless the fabric is injured in consequence. By the covenant the tenant is unconditionally bound to repair all dilapidations, whether the fabric of the building is injured or not. Injuries to the building caused by inevitable accident are excepted from the common law obligation, but not from the obligation of a general covenant."

In interpreting their repairing covenants, the law leans against lessees, so that they should endeavour to narrow provisoes for re-entry on breaches to injuries of specially definite character in kind or value according to circumstances, excluding various contingencies; or to such breaches as they disregard after written notice. Otherwise, ordinary covenants by lessees to maintain and leave in repair apply to future erections and to destruction by fire, storm, flood, lightning or accident, without stoppage of rent; and if the tenancy continues after the term the tenant's relative liabilities generally continue unless otherwise arranged.

Although under a covenant to *keep* in repair premises *must never remain* dilapidated at all but be put in repair,

whether or not they were so originally, a general covenant for maintenance is not similarly construed as one to improve them; for their age and state at commencement of tenure must be considered; as it would be unjust to equalise future repairs of decayed and new houses. So it seems, that if a building is uncovered when the tenant comes in, it is no waste in him to suffer it to fall, or if this occurs from time without his default. Chief Justice Tindal lays down the law lucidly that;—"When a very old building is demised, and the lessee enters into a covenant to repair it, it is not meant that the old building is to be restored in a renewed form at the end of the term, or of greater value than it was at the commencement of the term. What the natural operation of time flowing on effects, and all that the elements bring about, in diminishing the value, constitute a loss, which, so far as it results from time and nature, falls upon the landlord. But the tenant is to take care that the premises do not suffer more than the operation of time and nature would effect; he is bound, by seasonable applications of labour, to keep the house as nearly as possible in the same condition as when it was demised. If it appear that he has made these applications, and laid out money from time to time upon the premises, it would not be fair to judge him very rigorously by the reports of a surveyor, who is generally sent in for the very purpose of finding fault." It may be added that identically worded covenants to repair in leases and underleases are not similarly construed, on account of the age and condition of the premises differing at the beginning of the respective terms.

Occasionally it is desirable for the landlord to reserve power to execute repairs at the tenant's cost if the latter fails in his own duty; as otherwise the former's entry for such purpose would be trespass, although he might still recover for essential work if his object was to preclude forfeiture by himself. Of course, the lessor may sue for

breach of contract, or for waste, or proceed in ejectment under an applicable proviso. Where the lessor undertakes to maintain, he should stipulate for right of entry accordingly; but he is bound to repair only erections originally demised. The lessee must give him notice of works being necessary, and cannot leave because they are not performed.

If a landlord has undertaken and, after notice, neglected reparation, then, in urgent cases, the tenant may execute it; but to recover cost he must proceed lawfully, by action of assumpsit for breach of promise, or on the case for breach of duty, or for breach of contract or of covenant, as there is no implied stipulation that he may deduct from rent, and a cross claim will not preclude distraint, although a set-off would be considered if the landlord sued for rent. As to the question, what are essential repairs, if the point is not plain, it will be prudent in the tenant to pause, as otherwise a jury may be asked to answer.

LIABILITIES WITHOUT STIPULATIONS TO REPAIR.

In the absence of stipulation a landlord is not impliedly at law liable to his tenant in respect of repairs, nuisance, unfitness or duration, even although premises are in such condition that they cannot be occupied, or have fallen down or are blown-up or burnt, while the tenant must still fulfil his unconditional contract to pay rent, without subtraction for work executed by himself, until termination of his holding, before which also he is not by implication free to quit. So Woodfall observes,—“There is never any covenant or promise implied by law on the part of a lessor of a house or land that it is reasonably fit for habitation: nor that the house will endure during the term: nor that the lessor will do any repairs whatever. Even where the premises *become in a dangerous state for want of substantial repairs,*

and the landlord has notice to that effect, there is no implied obligation on his part to do any such repairs. A tenant has no equity to compel his landlord to expend money received by him from an insurance office, on the demised premises being burnt down, in rebuilding the premises; or to restrain the landlord from suing for the rent until they are rebuilt." Because, Sir John Leach explains,—"There is no principle on which the tenant's situation could be changed by a precaution on the part of the landlord with which the tenant had nothing to do." But, in his "Handy Book on Property Law," Lord St. Leonards says to the landlord,—“If you have insured, although not bound to do so, and received the money, you cannot compel payment of the rent, if you decline to lay out the money in rebuilding.” This dictum however the Court of Queen's Bench refused to follow, Lord Campbell observing;—"With regard to the opinion expressed by Lord St. Leonards, his book is a most valuable publication, and I pay respect to it; if it were proposed to make it law, I might be ready to support it; but it is only the opinion of a learned judge, and it is contrary to a solemn (!) decision and my own opinion." In the case of a furnished house, there is no warranty that it is suitable for habitation, the only assumed contract on the part of the landlord being for quiet occupation in its ordinary legal sense. As Lord Wensleydale lays down,—“When parties mean that a lease is to be void on account of unfitness of the premises for the subject for which they are intended to be used, they should express their meaning.” That is, tenants should depend on stipulation, and not trust venturously to implication; for the law of “precedent” does not regard them as requiring exceptional protection by reason of what it terms their own indiscretion and neglect of prudent precautions on entering deliberately into a voluntary contract.

Landlords, as being absent, are generally not impliedly answerable to *third parties*, except sometimes to public

authorities, any more than to their tenants, through premises becoming after demise in a dangerous state; as from neglect in fencing openings, repairing trap-doors, the falling of parts, &c., but of course are so if any legal duty can reasonably be presumed; as where tenants are neither expressly nor assumedly liable to repair or maintain wholly or partially. Otherwise, action lies against occupiers, who must use ordinary precaution, being besides responsible for wilful damage.

Turning to the liabilities of tenants towards landlords where there is no covenant or agreement respecting repair, the common law generally attaches responsibility to occupiers; and in holdings of any kind a contract is implied not to commit waste, but exercise reasonable care and use premises in a tenant-like manner. Leases almost invariably include stipulations on the subject; and thus it is difficult to find decisions on cases where they have been omitted whence to deduce conclusions. Mr. Woods says;—"If no covenants are inserted in the lease, the common covenants to repair, maintain and uphold are always implied; and the lessor is as much bound by them as if they were expressed." This Elmes confirms:—"It is so notoriously the duty of the actual occupier of a tenement to repair, sustain, maintain and uphold the premises he occupies, and so little the duty of the landlord, that even without an agreement or covenant to that effect, the landlord may maintain an action against his tenant for neglecting such duty, on the ground of the injury done to his inheritance." But Grady observes;—"In those cases where the tenant has a lease for years of the premises, if there be no express contract that the tenant shall keep the premises in substantial repair, or if there be no express exemption from liability to repair, the tenant is only bound to preserve the premises from occasional and accidental dilapidation." "There is no doubt," Mr. Maude considers, "when the *later authorities* are looked at, that a tenant for a term of

years is liable in respect of permissive waste." The sound opinion seems to be that a lessee's liabilities lie somewhere between the extreme boundaries above marked. At all events, as before quoted from Gibbons, the tenant is bound to preserve the interior from injury beyond fair wear in the lapse of time, and in furtherance of this object must execute exterior works; but he cannot be compelled to rebuild after destruction by tempest, flood or fire.

Tenants from year to year are not so liable for dilapidations as tenants for years, but are responsible for voluntary waste, wilful damage or negligence, and injury caused by carelessness and avoidable accident; and they must execute tenantable repairs; as to joinery, ironmongery, plastering, painting, glazing, &c., which they have damaged or defaced. They are not liable for permissive waste, fair wearing, substantial repairs, as to walling, roofing, &c., or for accidental fire. So Lord Kenyon lays down:—"A tenant from year to year is bound to commit no waste, and to make fair and tenantable repairs, such as putting in windows or doors that have been broken by him, so as to prevent waste and decay of the premises."

A tenant who may leave when he likes is not amenable for permissive, but only for voluntary, commissive or wilful waste. Gibbons observes:—"Tenants at will (that is, those who hold merely at the will of the lessor, and whose estate may be determined at any time, not those who hold under yearly tenancies determinable by notice, and who are sometimes improperly termed tenants at will) are not bound to do any repairs; but still they cannot lawfully commit voluntary waste." The Metropolitan Building Act, 1855, 18 & 19 Vict. c. 122, provides for party structures.

FIRE.

By the 14 Geo. III. c. 78, s. 86,—“no action, suit or process whatever, shall be had, maintained or prosecuted

against any person in whose house, chamber, stable, barn, or other building, or on whose estate, any fire shall accidentally begin, nor shall any recompense be made by such person for any damage suffered thereby;" but "no contract or agreement made between landlord and tenant shall be hereby defeated or made void." It has been decided that the statute does not apply where fire is caused by negligence or wilfully, when also a tenant may be responsible for damage to adjacent property.

SURVEYING AND VALUING DILAPIDATIONS.

It being usually inferred that persons do not take premises without being satisfied of their endurance during the term, whenever they are old or in doubtful condition, a survey and schedule should be made before the lease is executed, in order to prove original state, with reference to which dilapidations are generally assessed. Copies, entitled condition of premises, should be signed by both parties, at least all defects in walls, roofs, floors, ceilings, chimney-pieces, hearths, stoves, ironmongery, glass, &c., being noted. In France, a similar document, called "*etat des lieux*," is commonly appended to demising instruments, much as fixtures are scheduled in England; and the tenant should not neglect its preparation.

Before surveying dilapidations, the surveyor should peruse the lease or agreement; and he ought to understand the legal construction of covenants and conditions.

Although surveys are often made every few years during a term, still unless under special circumstances, as where premises are in bad condition, or a lessee fears forfeiture from his sub-lessee's neglect, landlords avoid giving umbrage to susceptible tenants by frequent examinations.

After survey, notice, usually three months, or as provided, is served for repairs and reinstatements specified;

but if as is often the case the covenant to repair after notice is perfectly disconnected from another general covenant to maintain or keep in repair, an action may be brought immediately premises become dilapidated.

Towards the expiry of a lease a survey should always be made. Then it is usual to allow the tenant the option of executing specified works or paying the sum *assessed* for undue deterioration. The latter course Elmes sensibly says is more beneficial for both parties,—“first, because the compensation will cost the tenant much less than the repairs, which he ought in justice, and according to the covenants of his lease, to have performed at some period during its continuance; and next, the money so received by the landlord, can be expended more beneficially when added to that sum which he intended to be expended upon the premises in consideration of a new lease than the forced reparations and the unwilling and often half-done patchings of the tenant by way of repairs.”

If survey is made after the term, when his legal possession has ceased, the tenant has not the alternative of execution. Moreover the landlord can, without giving notice, proceed to recover costs of dilapidations and even damages for loss of rent through delay in letting because of reparations. It is however only fairly courteous to intimate intention to survey in order that the tenant may attend or appoint a surveyor. The lessee need not wait for assessing repairs but execute them before the end of his term.

When dilapidations are to be valued the respective parties, to prevent disputes, may agree on one surveyor to arbitrate between them. If there are two surveyors, it is sometimes desirable that they should select an umpire before differences arise.

“ Let me be umpire in this doubtful strife.”

Surveying expenses commonly fall wholly on the landlord

unless one is appointed on behalf of both parties. Charges should be previously arranged if fairly feasible.

With respect to the manner of assessing dilapidations, the principle has already been indicated that a tenant cannot be required to deliver up premises as new, but only to pay the landlord the sum necessary to repair them according to the stipulations, or an amount equal to the difference in value between the condition they are in and ought to be in, reasonable wearing excepted, under the terms of holding. And here it may be allowed once more to quote the relevant remarks of Mr. Woods. "A tenant is not bound to use new materials, but only to leave the house as good as it would have been had no accidents happened and the coverings been properly attended to. All therefore the lessor can claim is a sum sufficient to enable him to effect this purpose. But as it is not easy to decide what is the market price of old materials, it becomes necessary to refer to that of new as a standard; and as the claim of the lessor is greater in proportion as the premises have had more wear, it will not be just always to preserve the same proportions. If, for instance, a new house have been leased for six years, the owner may reasonably expect that no part of it should be much the worse for wear; whereas if it had been leased for sixty-six years, a considerable general decay must necessarily have taken place. Thus, much must be left ultimately to the judgment of the surveyor; but I think that hardly any case could justify a demand of more than three-fourths of the new value, and that none would occur in which one-fourth might not be fairly demanded." Of course most repairs and reinstatements must almost necessarily be with new materials.

Elmes gives the manner of *assessing* dilapidations as below; but, whatever its advantages, the system is not now formally followed in usual practice. The total sum only is *named in notices*.

	Repairs, or full costs of repairs.	Dilapidations, or assessments for neglect.
Repair damaged roofing . .	£10 0 0	£5 10 0
Cut out and make good bulged lathing and plastering . .	1 0 0	18 0
Reinstate torn papering . .	10 0	10 0
Refit sash and rehang door . .	18 0	15 0
Stop in glass where broken . .	6 0	6 0

Surveyors assessing dilapidations must have an appraiser's annual license, costing £2, and renewable July 5th. By the 33 & 34 Vict. c. 97, appraisements made for the information of one person only and not obligatory between parties (no license being then required), and appraisements for ascertaining legacy or succession duty are exempt from stamping: otherwise appraisements must be written, showing the amount, within fourteen days from *making* under a penalty of £50; and any person paying for one not properly stamped is liable to forfeit £20. Duties are given in the *Second Division*.

The customary fee for estimating dilapidations is 5 p. c. on the estimate, but not less than £2 2s., exclusive of travelling expenses, time in going to distant parts, and ultimate trouble. An umpire sometimes charges £5 5s. a day.

LEGAL REMEDIES.

Means of redress for dilapidations, as by action of covenant, assumpsit, for damages, or where there is a proviso for re-entry of ejectment, are previously indicated, and also under *Leases and Tenancy*. Generally, legal measures are unadvisable unless premises are not in substantial or fairly tenantable condition for their class and age, as minutely literal performance of general covenants cannot commonly be expected; and a landlord would scarcely obtain a verdict for trifling things unless conjoined with gross neglect, serious injury or important

repairs. Allowance, Sir Nicholas Tindal notes, is properly made for exaggerated "reports of surveyors generally sent in for the very purpose of finding fault." Tenants desiring renewals have of course little option respecting repairs, and often meet with cruel measure. Questions of fact are entirely for the jury, who may be solemnly stolid with mere money qualification, on points of law judges directing, as Mr. Woods notices, "in similar cases so differently that they seem to consider the law as entirely in their own breasts."

Superior courts of equity, upon bill exhibited complaining of waste, may grant an injunction staying it until the defendant has put in his answer, when the judge will, at his discretion, make further order, which is now become the usual way of preventing waste; but injunctions are seldom granted on trivial or uncertain grounds. For the performance of repairing covenants chancery will not usually intervene.

FORMS.

Below are concise forms of : surveyor's report ; settlement of claim ; notice to repair ; submission to arbitration ; and award.

1. An account of dilapidations and want of reparations suffered to accrue at the premises — in the occupation of — taken pursuant to the covenants of a lease granted by — to — and dated — by A. B., surveyor, of — the — day of —

Schedule.

The sum of £— is hereby assessed as fair compensation to be paid by — in respect of the dilapidations and want reparations above particularised.

A. B., surveyor.

2. Sometimes, where so authorised, the respective surveyors settle in their note books ; amount agreed (date) to be paid by lessee in liquidation of the above dilapidations.

A. B. C. D.

3. To — of — his under-lessees, or under-tenants, and to all others, the tenants or occupiers, whom it may concern.

As the solicitor, or surveyor, and on behalf and by direction of — I hereby give you notice requiring you within three calendar months from this date well and sufficiently to repair, amend, reinstate and make good all defects, waste and want of reparations at the premises comprised in an indenture of lease dated — made between — and situated — conformably with the covenants, soundly, substantially and completely, more particularly the works specifically mentioned in the schedule hereunto appended. In case of default, proceedings will be taken to recover possession of the premises as for breach of covenant and also for damages (or you will be liable to forfeit the lease).

Dated this — day of —

A. B.

Mem. A true copy of the above was delivered at — on the — day of — by C. D.

Witness E. F.

If survey is made within a few months of close of term, omit clause relative to three months, and substitute for last paragraph,—or in lieu thereof pay to the aforesaid (lessor) the sum of £— as fair compensation for or assessment of dilapidations and want of repairs allowed to accrue at the aforesaid premises.

4. We hereby agree that A. B. shall decide all differences between us in reference to the amount due for dilapidations at —

C. D.

Witness G. H.

E. F.

5. I, the undersigned, of — having been appointed umpire between — and — to survey and estimate the amount of dilapidations at the premises — under the covenants contained in the indenture of lease by which they were held dated — having perused the lease and surveyed the premises do hereby certify and determine that the sum of £— is a fair and proper amount to be paid in respect of such dilapidations.

As witness my hand this — day of —

A. B.

Witness to the signature by the said A. B.

C. D.

FIXTURES.

ORIGIN.

The ambiguity which pertains to dilapidations scarcely decreases on approaching fixtures; and this term itself is a misnomer, meaning things which may be unfixed. Legal rules respecting them are traceable to the feudal principle, or want of principle, that everything annexed to the freehold became essentially part of it and similarly irremovable. But the persistent progress of an enlightened civilization, the permanent uprisement of a new and powerful middle class, and the vigorous growth of a healthy commercial spirit, altogether combined to lessen exclusive consideration of real property and to increase the importance of personal property. Then, implicit faith in the factitious dogma of "realty" began to be deemed less sacred; and it was seen that narrowly despotic laws respecting it, made exclusively by landowners for landowners, might reasonably be relaxed, equally to the benefit of the privileged landlord and the oppressed tenant. Thus, gradually, from motives of modern public in opposition to mediæval private policy, judges were forced to modulate the rigidity of ancient custom by deciding that numerous things which the tenant had attached to the soil or structure for its more convenient enjoyment, or as humanising ornaments—"Ingenuas didicisse, &c."—or for carrying on the business paying the rent, could be taken away at expiry of occupation on making good damage done to the estate. Some such decisions date from the reign of the seventh Henry; in that of Anne, certain rules were altered for the encouragement of trade; next, the comfort and

refinement deemed essential in the increasingly artificial state of society led to exemption from attachment of various domestic and decorative articles; and ultimately, sundry agricultural appurtenances were released. But right of removal is still, strictly speaking, of exceptional character, resting often on episodic, crochety and continually misleading *precedents*—probably, of all juridical contrivances, the most uncertain, retrograde and unreasonable—more or less established in the courts: so that, in ascertaining whether things may be detached, the fundamental principles, if there happen to be any, governing decisions, with the circumstances surrounding cases, and any nice distinctions that can be conceived, should be carefully studied. Frequently, agreement between landlord and tenant may be implied where no express stipulation exists; often trade, local or other customs intervene; and, in short—the law being so dubious or unknown, even to the judges, according to Sir William Maule, it becoming again and again their vain “task to elicit a single sense out of a heap of contradictory statutes” or out of nonsense—each case must depend in a great measure, Chief Justice Dallas somewhat superfluously says, upon its own peculiar facts.

NATURE.

The word fixtures, although sometimes used to indicate what *cannot* be taken away, is generally and more correctly understood to comprehend things affixed, attached, annexed or let into land or buildings, which the tenant *can* remove: otherwise they pertain to the landlord's estate.

Whether a thing is so attached as to be deprived of character as a movable, depends, says Baron Parke, afterwards Lord Wensleydale, “principally on two considerations: first, the mode of annexation to the soil or fabric of the house, the extent to which it is united to them, and

whether it can easily be removed without injury to itself or the fabric of the building ; and, secondly, on the object and purpose of the annexation, whether it was for the permanent and substantial improvement of the dwelling, or merely for a temporary purpose, or the more complete enjoyment and use of it as a chattel."

Considering this authoritative legal definition, mere juxtaposition short of annexation, fragile connexion, size, weight, material, convenience, improvement, or value, in itself alone, does not render a thing immovable. To be so, as regards brickwork or masonry, the ground must be dug or there must be complete connexion, or strong or substantial attachment by cement or otherwise to the original building. Thus, a foundation may be irremovable, and an important structure, even with chimneys, merely put upon it, or secured by shifting fastenings, may be removable : or, again, where the latter simply rests on blocks or rollers laid on the soil ; but not if junction with the fabric is intimate, as by brackets let into old walls to carry the addition, or by toothing into brickwork. As regards woodwork, there is an important distinction between employing nails and screws ; the former being used for permanent work, their withdrawal tearing and shaking adjoining parts, while screws are commonly adopted for temporary additions, or where alteration or removal is contemplated, their withdrawal causing little or no damage. Thus, nails are introduced for indispensable parts of houses, timbers, doors, windows, &c. ; and screws for fixing blinds, rails, cases and suchlike supplementary articles. Local or trade customs of valuing things between tenants, and also exemption from distress, are *tests* of fixtures ; but their constitution nowise depends on the nature of tenancy.

Fixtures are usually divided into *landlord's* and *tenant's*.

Things which are so closely attached to a structure as to form essentially part of it, or are put up for its permanent

improvement, or again, such as are not really annexed, do not come under the denomination of fixtures; and by landlord's fixtures are commonly meant those let on hire with premises and to prevent disputes frequently scheduled to the lease. Tenant's fixtures are those added by him during his term (though of course they may from their nature instantly pertain to the landlord), or purchased at its commencement for domestic purposes of *convenience* or *ornament*, when they may often be considered in the light of furniture; or under similar circumstances those requisite for *trade* or *manufacture*, respecting which there is most liberty of removal. It is stated in the Dictionary of the Architectural Publication Society that,—“The principle involved in the question as to what is *prima facie* a landlord's and what is a tenant's fixture, may be briefly stated thus, viz., what is necessary for tenantable occupation belongs to the landlord, what is desirable for simply personal and individual convenience belongs to the tenant: with the increase therefore of luxury and comfort, the range of what are considered landlord's fixtures is constantly increased, and that of the tenant's decreased; thus originally glass windows were *prima facie* tenant's fixtures, now, stoves and bells are *prima facie* landlord's fixtures.” The reader will thus appreciate the entanglement of the matter; but dwellings are becoming so completely fitted with requisites for comfort and convenience that it is to be hoped most landlords will soon lease domestic habitations at a rental as they stand without haggling for purchase (or extra rent) of affixed essentials, however they may solemnly embalm lengthened lists (as, in one view, screw-hinged doors, and such loose articles as cord-hung sashes), and that thus this vexatious subject may almost cease from troubling, especially as it exists mainly for the benefit of inventarians and valuers.

REMOVAL.

Disputes on the removal of fixtures relate generally to those erected for trade or manufacturing purposes. The subject often involves much refined discrimination, depending on decided cases. Amos and Ferard, probably still the highest authority, say;—"That things which a tenant has fixed to the freehold for the purposes of trade or manufacture, may be taken away by him, wherever the removal is not contrary to any prevailing practice; where the articles can be removed without causing material injury to the estate; and where, in themselves, they were of a perfect chattel nature before they were put up, or at least have in substance that character independently of their union with the soil; or, in other words, where they may be removed without being entirely demolished, or losing their essential character or value. If an erection, put up in relation to trade, can be severed without violating *any one* of these conditions, it may very safely be affirmed, that whatever be its magnitude, construction, or mode of annexation, it is a fixture which a tenant is privileged to remove. It is not, however, meant to be inferred, that because in any particular instance these circumstances do not all concur, that therefore an article cannot be removed."

So, erections to cover or contain or which are accessory to machinery or plant for manufacturing purposes (not buildings adapted for general occupation, as warehouses factories or dwellings) are generally equally removable with things to which they pertain, if "without causing material injury to the estate" or "losing their essential character and values," as specially suited to the above or similar objects. But substantial structures of magnitude, although for business purposes, are irremovable, because of their great deterioration by severance, probably almost to the extent of destruction, prejudicing the landlord without

benefiting the tenant, and also in accordance with the maxim that the principal thing shall not be destroyed by taking away the accessory.

LISTS.

Obviously it is not in extreme and simple but in intermediate and mixed instances that subtle shades of distinction arise. Touching legal decisions, Chitty observes;—"the courts have so frequently laid stress upon the particular circumstances of the case before them, or the peculiar state or position of the fixture in question, that few decisions can be regarded as absolute authorities, even in cases which have reference to fixtures of a similar denomination." General principles are therefore chiefly considered here, as, notwithstanding exceptions, forming the safer guide; but it may be mentioned that among *trade fixtures*, the tenant can remove machinery, engines, furnaces, coppers, forges, ovens, fixed vats and pans, pumps, cisterns, mills, cranes, presses, and various plant, with brick, metal and other strictly pertaining parts, rick stands and granaries on detached piers; but it is not established that he may take away such substantial erections as water or windmills, malting, smelting and glass houses, store-rooms, workshops and various kilns, constructed for use in themselves, instead of as enclosures facilitating machines, &c., being worked. A nurseryman can remove hot or green-houses and forcing-pits, with trees, shrubs, &c., in the ground for sale. Occupiers may also unfix fittings to shops, warerooms and offices, as counters, cases, closets, safes, drawers, desks, shelves, glass fronts, partitions and gas apparatus. As to agricultural buildings and machinery, put up with the consent of the landlord, the 14 & 15 Vict. c. 25, enables farmers to remove them, making good damage done, if erected at their own cost, and the landlord does not elect to purchase any by valuation.

With regard to *domestic fixtures*, in the absence of stipulation, they cannot be taken away when this will occasion substantial injury to premises, which question may be for a jury. Fixtures which the tenant has put in place of such as were so worn as to be incapable of repair, may be removed, together with those he has otherwise substituted, but in the latter case restoring original or similar articles. Usually the tenant is *prima facie* entitled to detach if he has introduced (reinstating as before) or bought such things as ornamental chimney-pieces, marble slabs, mirrors, stoves, ovens, coppers, blinds, bells, stair eyes, finger plates, fastenings, fitted cases, fixed tables, tubs or butts, double sashes and doors, or other added or substituted sashes and doors, restoring originals, also shelves, rails, pegs and gas fittings; but not brick or stone bins, paving, hearths, stone or slate slabs cemented to walls, partitions, greenhouses or sheds let into the ground or closely affixed to buildings, not merely by holdfasts; nor, except they are practically distinct pieces of furniture or severable without much injury to themselves or the fabric, cupboards, dressers, benches, cisterns, pumps and sinks. He must not remove trees, hedges, shrubs, or borders of box, nor dig up strawberry beds although bought of the former occupant.

But a tenant may, in various ways, bar his right to remove any fixtures, even those for trade purposes; as by express or implied agreement, or by the common covenant to yield up at the end of the lease or to keep in repair *all* erections, &c. Where valuable additions are contemplated or probable, the lessee should not rely upon customary right or implication, but stipulate definitely for liberty of severance, and that within a reasonable period after the term, when the lessor will probably provide that all damage is to be made good and the premises restored to their original condition. Equitable clauses to give up fixtures should be narrowed to those on property during the last three or seven years of the term.

Whatever the holding, a tenant's right to sever fixtures continues only during legal possession of premises, or when he continues on sufferance, not if he wrongly remains over, nor again if he renews tenancy without reservation of fixtures; for then what were once his are let by the landlord, who thus sometimes obtains possession of them by simple silence until holding has expired.

The remedy for wrongful severance or retention of fixtures is by action on the case in the nature of waste, of trover, trespass or breach of contract or covenant, according to circumstances, brought in the county court for damages up to £50, or otherwise in superior courts. To prevent removal, chancery will grant an injunction.

DAMAGE.

Injury caused by severing fixtures, or failure in replacing articles for which the tenant has substituted others, comes within dilapidations, even where he has not agreed to make good defects. Although not so liable to repair damage occasioned by detaching fixtures purchased of the landlord as in the case of those put up by himself, he must, as a general rule, leave premises comparatively as found, or in as good a condition as if improvements of his own had never taken place. "In removing fixtures," Amos and Ferard observe, "a tenant must do as little injury as possible to the demised premises, and as far as it is in his power, he must replace everything in its former situation. If the premises sustain damage, however unavoidable it may be, by taking away the fixtures, it seems that the landlord may compel the tenant to make it good." Still, in severing plant, the brickwork in which it may be secured need not, as often it could not, be left entire; but it should, at least so far, be fit to be used for a similar purpose. The tenant must also fill excavation, and make good walling, timbers, &c., injured or removed.

SALE.

No contract is implied on the part of a tenant when buying or renting a house to purchase separately the fixtures which form part of it, or pass on conveyance or demise, nor can the original owner afterwards remove them. In lettings the tenant may find it advantageous to buy fixtures if he wishes to make alterations, as otherwise they must commonly be yielded up unchanged with subsequent defects made good; and it may be stipulated that the landlord shall repurchase by valuation such as remain at the end of the term with reasonable additions and alterations; or at a per centage reduction (the list comprising separate specific prices) according to time of value if not unduly deteriorated; for to other than him they would be of slight worth, old stoves, for instance, selling for little more than old iron; but there is little temptation to buy if the reversion is of short duration.

It is manifest that, both as regards property in and right to remove fixtures, a landlord should be privy to transfer between tenants; as there might otherwise be sold what belonged to or from tenancy expiring before their removal what passed legally to the former, although the second tenant could sue the first one for money wrongly paid to him. Woodfall cautions that;—"Where the landlord during the term, by letter, declines to buy the tenant's fixtures, but adds, 'I have no objection to your leaving them on the premises and making the best terms you can with the incoming tenant,' such letter does not operate as a valid license, it not being under seal; and if the new tenant refuse to pay for the fixtures so left, or permit them to be removed, no action of trover will lie for them, whilst they remain unsevered from the freehold."

Like other goods, fixtures may be transferred verbally, but writing on sale must be stamped as a conveyance.

Schedules of fixtures separate from instruments of transfer are subject to separate stamp duty; but on lettings there may be a simple memorandum of acknowledgment. The charge for valuations (the total sum only being given at end of items) is the same as for dilapidations, the appraisement being stamped; and for inventories from one guinea. Appraisers are of course amenable for deficient ordinary care and skill, as valuing goods too high or low.

An inventory and appraisement of fixtures, with receipt for purchase money may be in the following form.

Schedule of fixtures on the premises — the property of —

Third floor, front room. Three white linen Holland roller-blinds with lines and racks. Two buff china lever bell-pulls with wires and cranks. Mahogany rail and four brass dress-hooks. A 36-inch register stove. Double swing 24-inch japanned iron gas-bracket with supply pipe, burner and glass. So continue throughout house.

The fixtures described in the foregoing inventory are valued at the sum of eighty pounds, this — day of — by

A. B. of —

and

C. D. of —

Amount	.	£80	0
Half-stamp	.		5
		<hr/>	
		£80	5
		<hr/>	

Received of Mr. — this — day of — the sum of eighty pounds five shillings on sale to him of the fixtures and effects mentioned in the preceding inventory.

£80	5
<hr/>	

E. F.

SUNDRY RIGHTS AND LIABILITIES.

BOUNDARIES.

In the absence of plans, figures or rebutting circumstances, where a fence or hedge and a ditch are conjoined, the landowner on whose side either of the former stands claims the latter; the theory being that excavated soil was cast on the digger's land as ground work for his barrier, which thus with the ditch forms the boundary, and the limit being the outer bank from the fence or hedge. Property in a fence or hedge between ditches, or without ditch, may be joint or rest on acts of ownership of long standing, as executing repairs, especially on demand.

Posts and rails of paling are presumed to stand wholly on the owner's land, with pales outwards and nails driven *home*.

Joint proprietors of fences, &c., are not necessarily under obligation one towards another to preserve them, any more than a sole proprietor is similarly bound towards the adjoining owner or the public; but in both cases prudent precautions must be taken to obviate injury to others, as by scouring ditches, enclosing holes next public roads, preventing cattle straying, &c. Generally the tenant (who must also usually preserve boundaries), not the landlord, is liable to actions in such cases. The time a fence has existed is one element in considering liability to repair it; and twenty years is the least period.

Where a stream flows between properties, the presumptive boundary is the central line of water, use of which is shared between opposite owners, neither being entitled to injuriously affect the other or proprietors above or below *by obstructing, diverting, diminishing or polluting it*.

In the case of houses or grounds separated by walls used by both owners and built at joint expense, half on the land of each, and also where it is unknown at whose cost or on whose land such walls were erected, they are practically common to the parties, and either may exercise acts of ownership in building, &c., so that one does not prejudice the other. If a man builds on another's ground, the latter must set up his right within a reasonable period from cognizance of the trespass.

In London, rights and liabilities of owners of party structures are regulated by the Metropolitan Building Act, 1855, 18 & 19 Vict. c. 122.

At common law, a man has a right of natural support of soil so that an adjoining owner must not by excavating cause it to fall. If a house has been erected above twenty years, there is usually a special easement of support from adjoining land or houses (as from party structures) the proprietor of which is liable for injury by settlement, &c., caused by him. In other cases, general right to support or to notice to take precautions should be proved. Where a row of houses is built by one owner and sold to different parties there is by implication right to joint support.

LIGHTS.

An Act for shortening the Time of Prescription in certain Cases, 2 & 3 Will. IV. c. 71, applies to rights of common, way, watercourses and use of light; but it is not clear and has been differently construed by judges.

Section 3 provides;—"That when the access and use of light to and for any dwelling house, workshop, or other building, shall have been actually enjoyed therewith for the full period of twenty years without interruption, the right thereto shall be deemed absolute and indefeasible, any local usage or custom to the contrary notwithstanding,

unless it shall appear that the same was enjoyed by some consent or agreement, expressly made or given for that purpose by deed or writing." By section 4;—"No act or other matter shall be deemed to be an interruption, within the meaning of this statute, unless the same shall have been or shall be submitted to or acquiesced in for one year after the party interrupted shall have had or shall have notice thereof, and of the person making or authorising the same to be made."

Right to light may however remain good at common law, but lapses after twenty years non-user or less, if in the last case permanent purpose of abandonment beyond merely temporary intermission of enjoyment, or, again, if acquiescence in obstruction may reasonably be assumed. So Professor Amos, in one of his lectures, warns that;—"Questions may arise under the Act whether a right of common, way, and especially of light, can be lost by flux of time alone, in less periods than sixty, forty, or twenty years respectively. And whether they can be lost in less time than these periods by any act indicating an abandonment short of a release under seal." In the case of previously uncovered land, questions of right to light or air do not usually arise.

No matter where the obstruction may be, whether or not a street intervenes, interference in front, obliquely or laterally by which an ancient window, skylight or other opening is injuriously affected in respect of light or air is ground for suit or action. The notion that it suffices to keep obstruction clear of an angle of 45° has little legal weight.

Great risk is run by interference with the old mode of user if it is intended to be fully retained. Enlarging a window nowise affects right to light through original extent of opening, but twenty years uninterrupted enjoyment is requisite to preclude obstruction of additional easement. Transferring a window from one position to another

suspends right to the old aperture, which may be reopened and the easement saved within a year, but does not prevent obstruction of the new one. If a house is demolished and rebuilt within a year or other reasonable time with lights as before, right to them is unaffected.

Raising walls so as to interrupt prospects is not actionable, for it is only a deprivation of delight, or not of what is absolutely necessary; and conversely, disturbance of privacy by opening windows is not legally a nuisance.

Action on the case is the usual and most direct remedy for obstruction of light and air; but where it is desired to stop progress of objectionable buildings, motion is made in equity for an injunction in restraint. According to Serjeant Woolrych's handy "Treatise of the Law of Window Lights," even, "A tenant from year to year may have an injunction against the erection of a wall which will obstruct his lights, the writ being limited to the period of his tenancy."

The issue of fact for a jury is usually whether the alleged obstruction prevents sufficient light being admitted for current use of the building, and thus, as Lord Denman puts it, "whether any real inconvenience is sustained, although some light may demonstrably have been obscured;" or it may be, has light been so intercepted as to render the place substantially less valuable than previously for a purpose for which it has been applied twenty years? The jury may thus arrive at a sensible conclusion without reference to the transcendental theories of measurement of certain hypercritical surveyors, likened by a distinguished Vice Chancellor to the mathematical "Sir Hudibras";—

"For he, by geometric scale,
Could take the size of pots of ale."

WATER AND DRAINAGE.

As in the case mentioned of a stream bounding so where one runs through property, no owner may make alterations detrimental to others; but rights of respective proprietors to water oozing, percolating or flowing in more or less defined channels beneath the ground are not equally obvious. It has been held that it is unlawful to arrange private drainage so as to lessen supply of water to a spring enjoyed for twenty years; and the reverse where one well diverted water from another; but decisions clash; and generally right is to water above, not below the surface.

Similarly, although the proprietor of lower land cannot prevent the proprietor of higher land from altering agricultural drains, still this must not be done so as unnecessarily to injure the former, who is also bound to receive water which flows in the accustomed manner about the surface. Oral leave to lay a drain through adjoining land, as to a ditch, does not confer right to its continuance. An easement to discharge water from roofing over another's property may be acquired by user; but gutters must not be re-arranged to deliver rain in a body. It is a nuisance to convey sewage into a ditch bounding or passing other premises. In the common objectionable case of drains traversing several houses or gardens, each owner is obliged to keep clear the length on his holding.

Although right to watercourses or use of water often arises from twenty years user, the statute last mentioned provides that it shall be indefeasible after forty years, unless enjoyed by agreement by deed or writing.

RIGHT OF WAY.

The periods last named apply to right of way, which *may also be established by prescription from time out of*

mind or by express or implied grant; but it may be public or private, or be only a footway, a horseway which includes a footway, or a carriageway which includes horse and foot ways; or may be limited to carriage of special articles, or to one person, and so on. It sometimes arises by operation of law, which in giving anything gives impliedly certain essentials for enjoyment. Thus grant of a plot of land in the middle of another piece includes where there is no other approach the shortest one in a straight line; and similarly, a lease with appurtenances comprises usual right of way. The general course adopted when it is not intended to *dedicate* a road or path to the public is to close it one day yearly.

TIMBER.

Timber, or wood fitted for building, in a legal sense, always extends to oak, ash and elm, but in certain parts also to beech, birch, lime, chestnut, walnut, cherry, aspen, willow, &c. Sometimes trees likely to become timber belong to the landlord and bushes to the tenant. A tree with roots in the soil of two owners pertains to the side where it was planted or sown.

NUISANCE.

An injunction in equity to prevent or stop, or at law an action for damages, is the usual remedy for more or less *permanent* injuries to property which do not directly interfere with possession and are denominated private as distinguished from public or common nuisances (redress for the latter being by indictment); such as those treated, obstructing light and air, right of way, diverting or corrupting streams, and numerous other ways in which neighbours may be molested or premises deteriorated.

But an action does not lie, nor will an interim or

provisional injunction be granted, for any detrimental, vexatious or merely unpleasant thing ; as noise from numerous children or a piano. Gibbons explains that ;—" A man is not restricted in the fair and reasonable use of his land by any delicacy of sense or peculiarity of habit of his neighbour. The objectionable smell or noise must arise from some permanent cause, and occasion continual annoyance and discomfort, to a degree sufficient to depreciate the value of a dwelling house, and render it less eligible in consequence of the neighbourhood. A swine-sty, lime-kiln, privy, smith's forge, tobacco mill, tallow furnace and glass-house, set up near a private residence are nuisances ;" also stores of gunpowder, manufactories, &c., inducing fear of danger, and serious vibration from engines. Chancery may inhibit a business being conducted that materially interferes with ordinary enjoyment, or is plainly prejudicial to health, without proof of specific injury, as destruction of vegetable life. Fumes of brick-kilns reaching private houses, smoke, offensive smells or gases, or noise from machinery are grounds for injunctions.

The Nuisances Removal Acts, especially the 18 and 19 Vict. c. 121, apply generally, and obviate many deficiencies in the Metropolis Local Management (18 and 19 Vict. c. 120) Public Health and Local Government Acts.

INSURANCE.

Before insuring, the conditions of the selected company should be perused as incorporated with the policy, which will be void if the subject is not precisely as described. The three classes of insurance, "ordinary, hazardous and doubly-hazardous," refer in common to structures, goods deposited and trades carried on : certain insurances are made by special agreement. Whatever is likely to increase risk, as close stoves, ovens or conservatories, should be *declared on effecting* insurance or in case of alterations of

buildings or introduction of hazardous things immediately afterwards; and the insurer should insist on insertion in the policy.

The policy is in force only during the time covered by the premium; and the fifteen days afterwards, mentioned in annual notice for renewal, are merely by way of privilege to save trouble in re-insurance, the insured being meanwhile at his own risk, although some companies formally intimate that advantage will not be taken if fire occurs.

Policies of insurance are assignable on official consent signified by endorsement on the policy or entry in the books; existing insurances are similarly continued to heirs, executors, purchasers, &c.; and insurances elsewhere together with removal of goods must also be endorsed on the policy. Immediate notice of losses should be given; but such as arise from enemies or commotion are not replaced. When buildings are injured it is well to call in a surveyor to estimate damage and arrange with the company, which has however the option of either paying loss money or reinstating premises or goods. Differences are determined by arbitration.

COMPULSORY SALE AND COMPENSATION.

NATURE OF CLAIMS.

Where companies or projectors of undertakings of public benefit, such as railways, waterworks, docks, or where certain Boards, &c., have obtained power to take specified land and buildings, without regard to ability, disability or inclination of owners and occupiers to part with property or submit to its being injuriously affected by proposed works, questions of compensation are dealt with by the Lands Clauses Consolidation Act, 1845, 8 Vict. c. 18, incorporating provisions in previous statutes and called the General Act, the Railways Clauses Consolidation Act, 1845, 8 Vict. c. 20, the Lands Clauses Amendment Act, 1860, 23 & 24 Vict. c. 106, the Regulation of Railways Act, 1868, 31 & 32 Vict. c. 119, and the Special Act authorising the works. Ingram and also Wordsworth on compensation generally, and Watson and also Archbold on arbitration and awards, may be safely consulted.

Nothing short of the clearest motives of public policy can possibly justify so extraordinary a proceeding as absolutely compelling a man to part with his property, and as dispossession is so despotic, the leaning should, in fairness, invariably be towards giving full worth to parties turned out, with an addition for forced sale.

Generalising : regard is paid not only to value of property required but to all losses which are directly owing to its being taken or to construction of works ; deprivation of goodwill, connexion or other source of income ; severance of land injuriously affecting what remains ; and also *deterioration* otherwise, as by causing settlements in

buildings, lessening light or air, &c., whether or not part of premises is appropriated. Value to the owner at the time forms foundation of claim. Liability for property being injuriously affected, as by nuisances, is commonly tested by ascertaining whether an action would lie if the company were not peculiarly privileged, as there is no legal responsibility for injury or inconvenience without remedy if caused by private persons; as decreasing pleasantness of residences, obstructing prospects, modern windows, &c. Where premises are occupied for profit (or sometimes privately) and access or frontage value is diminished, compensation is usually awarded, but not often for temporary essential obstruction during execution of works, or again for permanently intercepting well water, while claim for cutting off a stream is good. Detriment from vibration is ground for compensation only before completion and not during reasonable user of railways. Although it is desirable to indicate any prospective injury, generally compensation must be assessed once for all, things simply speculative or remote, together with what was unforeseen when the claim was settled, being often without remedy.

Specifically: compensation is claimable for expenses of removal, damage to furniture and cost of altering fitted furniture; additions or improvements enhancing value of premises; deprivation of right or expectation of extension or renewal of tenancy; destruction of an established business, or its transposition with intermediate loss of profits; enforced sale or removal and deterioration of stock, and sometimes for warehousing; domestic and trade fixtures, in cases even for steam engines and other plant, or for damage and expense in refitting. However uncertain, beneficial use, a goodwill or allowance by incoming tenants has a value, which must be considered with unlikelihood of proximate termination of tenancy otherwise than by the company's intervention. Yearly tenants may claim for

loss of profits during removal, for damage to furniture and stock, for expenses in removing and for fixtures; also for a proportion of premium that may have been paid, value of unexpired holding, and generally for any loss or injury sustained.

ABSTRACT OF GENERAL ACT.

The following abstract and subsequent references include the more important sections of the Lands Clauses Consolidation Act relating to points on which claims for compensation are commonly based and to modes of procedure.

Lands includes tenements and hereditaments of any tenure; and in London a police magistrate has the same power as two justices elsewhere.

Sections 18 to 21 provide for service by promoters on persons interested in land proposed to be taken of notice to treat requiring particulars of claims; and in default of particulars, or if parties cannot agree on amount to be paid for land or for damage, compensation is to be settled as directed.

Section 38. Before promoters summon a jury they must serve ten days' notice on the other party stating what sum they will give for his interest and for damage by execution of works. But sometimes 5s. is offered to raise questions.

Section 47. If the party claiming compensation does not appear such inquiry is not proceeded in, but compensation is ascertained by a surveyor appointed by justices. By ss. 58 & 59, a similar course is adopted if the party is abroad or cannot be found.

Section 63. In estimating compensation, not only value of land to be purchased must be considered but also damage by severing that taken from other land of the same owner or otherwise injuriously affecting it.

Section 68. If promoters have not made satisfaction for *land which has been taken for or is injuriously affected by*

execution of works and the sum required exceeds £50, the owner may give notice stating his interest and that if they do not agree in writing, within twenty-one days, to pay the amount named he requires the claim to be settled by arbitration or that they summon a jury; and in default compensation may be recovered with costs in the superior courts.

Section 84. Payment of price is to be made for land required to be purchased or permanently used previous to entry, except to survey.

Section 85. When promoters desire to enter land before determination of price they must first deposit in the bank the amount claimed by any interested party who objects or, at promoters option, the sum fixed by a surveyor appointed by justices, and give a bond with sureties in a penal sum equal to the deposit to secure compensation with interest.

Section 92. No party is to be required to sell part of any building or manufactory if he is willing and able to sell all. (The question, what land, separated or otherwise, forms portion of a holding generally depends on whether it would pass in a conveyance as among essentials or appurtenances, which it may sometimes do although a road intervenes. If promoters offer to take part, counter notice may be served to buy the whole.)

Section 93. Where land not situated in a town or built upon is so intersected by works as to leave on one or both sides less than half an acre, the owner may compel promoters to purchase it with that desired, unless he has land adjoining into which it can be thrown, so as to be conveniently occupied together, when promoters may be required to connect it with the adjoining land at their expense.

Section 94. If land left on either side by intersection is less than half an acre or of less value than cost of constructing a bridge, culvert or other communication such

as promoters are anywise obliged to make, and the owner has not other land adjoining and requires promoters to form the communication, they may insist on his selling the piece, and disputes respecting value or expense of communication are to be settled as provided.

Sections 95 to 118 relate to copyholds, common lands, mortgages and rent charges.

Section 119. If part of land comprised in a lease is taken, the rent is to be apportioned between land required and the residue, and if not determined by agreement, it is to be settled by justices, the liabilities and rights of the lessor and lessee remaining as before, modified by the apportionment.

Section 120. Every such lessee is entitled to compensation for damage by severance of land or otherwise by execution of works.

Section 121. If any such land is in possession of a person having no greater interest than as tenant for a year or from year to year and he is required to leave before expiration of his interest, he is entitled to compensation for the value of his unexpired term, and for any allowance which ought to be made to him by an incoming tenant, and for any loss or injury he may sustain; or if part only of such land is required, compensation for damage done by severing or otherwise injuriously affecting the land; and the amount of compensation is to be determined by justices if the parties differ. (He may quit at once and claim directly, including rent accruing due to his landlord from time of notice; but compensation to such occupiers is sometimes scandalously evaded by satisfying the landlord and then giving notice to quit, although the tenant may have established a business, for which he thus loses any equivalent.)

Section 122. Any party having a greater interest than tenancy at will and claiming compensation for an *unexpired term*, may be required to produce the lease, grant

or evidence thereof within twenty-one days, or he will be considered a tenant from year to year.

PROCEDURE ON CLAIM.

With regard to general procedure, on receipt from promoters of notice to treat within twenty-one days (ss. 18 to 21), claimant's surveyor should be instructed to prepare claim; and he will next, if desirable, meet the company's surveyor to discuss circumstances and calculations or obtain an offer. Notice to treat is a contract to purchase and cannot be revoked by promoters; but if they propose to buy only part of land they may abandon purchase if required to take all. There is no provision for more than one valuation or inquiry. A claim may be amended, as in case of mistakes.

The claim if not on a blank form supplied may be stated somewhat as below; and when negotiating modifications, suggestions should be guarded by adding that, it must be understood all written and oral communications are to be without prejudice if ultimate proceedings become necessary.

A. B. and C. D. Company.

SIR:

Referring to your notice to treat, I am instructed by A. B. to state that he owns the fee simple in possession, subject to a certain lease, dated — and granted to — for — years at £— per annum; or an estate in fee in the land which is copyhold of the manor of —; or an estate for life; or a lease (with full respective particulars); and that he claims the sum of £— for purchase of his interest, and a further sum of £— as fair and reasonable compensation for injury by severance, or to adjoining property; or for loss of business and forced sale of stock; or for fixtures, damage to furniture, expenses of removal, &c., which will be occasioned by execution of the proposed works.

I am, &c.,

E. F., surveyor.

To the secretary or solicitor of the company, or others.

If claimant wishes arbitration, there may be added that, unless promoters agree in writing within twenty-one days to pay the sum demanded, he desires to have compensation settled by arbitration as prescribed by the Lands Clauses Consolidation Act, 1845. Furthermore, he may name his own and request promoters to appoint their arbitrator.

ADJUDICATION OF CLAIM.

If promoters and owner cannot agree on compensation to be paid for property, damage by severance or otherwise, and the claim does not exceed £50, it is settled by justices (ss. 22, 24); if the claim is above £50, the owner can, on giving notice, refer it either to arbitration or a jury (ss. 23, 68); but in the case of annual tenants, if all or part of premises is taken, compensation, whatever the amount or nature of claim, is decided by justices (s. 121); so if premises are injuriously affected only and the claim is under £50, it is settled by justices, but if more than £50, by arbitration or a jury (s. 68, and *Somers v. Metropolitan Railway Co.*).

Where compensation is disputed, and jurisdiction is given to justices, upon application of either party any justice may summon the other before two justices who will determine the question (s. 24). Application must be within six months from when the subject arose.

Where jurisdiction is given to arbitrators or a jury, and compensation is to be settled before land is taken, as where promoters have commenced negotiations under s. 18, the *initiative lies on promoters* to give ten days notice of intention to summon a jury if the claimant does not accept the offer then made or wish arbitration (ss. 38, 23); but they are not bound to do this where land has been taken, as under s. 85, or is injuriously affected without satisfaction having been made, the *initiative then lying on the owner* to give twenty-one days notice of desire for arbitration or a

jury, stating amount of claim (s. 68). The company may be compelled by mandamus to summon the jury within a reasonable period. "If," says Ingram, "the claimant desire that the amount of compensation be settled by a jury, it is unnecessary to serve a notice of claim;" that is, where entitled to a jury after notice to treat. At any time before promoters have issued their warrant for a jury, claimant may require settlement by arbitration (s. 23). Generally, it is expedient parties should agree on a single arbitrator (s. 25).

As to claimant's choice of arbitration or a jury, the former, although costs are commonly heavy, is often preferable where value of premises only is disputed, and the latter where loss of business is also included, the point being whether peculiar professional or general business qualifications are chiefly required. Juries may be hopelessly incompetent, but often incline towards claimants; and trials are less harassing and more expeditious than arbitrations, while the latter give time to rebut unexpected evidence. The jury must deliver their verdict separately for sums for purchase and damage by severance or otherwise (s. 49).

With regard to questions of compensation which the General Act requires to be settled by a jury, the Regulation of Railways Act (s. 41) declares that either the company taking or injuriously affecting land or the party seeking compensation, may, before issue of the former's warrant, apply to a judge of the superior common law courts who can order the trial before one of such tribunals.

Costs.

If compensation is assessed by justices, they determine costs (s. 24).

Costs of arbitration are borne by promoters unless

arbitrators award the same or a less sum than that offered by the former, when each party bears his own costs, and those of arbitrators are borne by the parties in equal proportion (s. 34). Ingram observes that;—"It seems, under this section, if the company do not offer any sum, and there is a compulsory arbitration under the statute, the claimant ought to have his costs, as the statute provides, that all the costs shall be borne by the company, unless the arbitrators shall award the same or a less sum than has been offered by the company;" but not if the claim is disallowed, or where distinct claims have been made and some are rejected. It has been decided that if parties agree in writing to arbitration without referring to the provisions of the Consolidated Act respecting costs, the claimant is not entitled to any, although the award may be for a larger sum than that offered.

On inquiry before a jury, where the verdict is for a greater sum than that offered by promoters, all costs are borne by the latter; but if the verdict is for the same or a less sum than that offered, or if the owner fails to appear, having received notice, half costs of trial, if it takes place, is to be defrayed by the owner and half by promoters, each party bearing his own other costs (s. 51).

A witness summoned and tendered reasonable expenses who fails to attend before a jury or justices may be fined (ss. 45, 143).

Promoters pay claimant's surveyor a per centage, according to their scale, on his accepted valuation; but claimant must pay for other trouble in supporting demands. Costs of conveyance, verifying title, &c., are borne by promoters (s. 82).

EVIDENCE OF VALUE.

In the early days of railway compensation cases, awards for property taken or injured were many times very

excessive, the Lords' select committee of 1845 recommending that, "not less than fifty per cent. upon the original value ought to be given in compensation for the compulsion only to which the seller is bound to submit, the severance and the damage being distinct considerations." Of late the other extreme is common, truly hard and really cruel cases of totally inadequate indemnification to individuals, humble, poor and defenceless, coping with wealthy and powerful companies, seeking solely their own profit, continually recurring. Speaking seriously, while suggesting playfully photographs of "some of the principal performers in the remarkable game that is going on," the "Builder" points out that,—“A certain number of leading surveyors, who appear usually to act together, having fought through the first phase of the movement, have acquired such a pious fervour in defence of companies that it leads them often to underrate very considerably, according to the opinion of others, the value of any property about to be taken by them.” Few claimants now obtain the sums demanded; freeholders frequently about two-thirds or three-fourths, and leaseholders and lesser occupiers sometimes about one-half or two-thirds. In numerous instances, “great expectations” but greater disappointments, through startling discrepancies in estimates, are due to the opposite surveyors’ wild “speculations” on the converse overstrained systems of valuing to buy or to sell, according to the side on which they chance to be retained; as in one preposterous but not solitary case taking oath respectively that £1200 was ample and £13,000 moderate value. In these instances, the horns of the dilemma would, in all charity, seem sometimes to be deficient knowledge or probity on one part or the other. A person may be indicted for perjury in swearing he *thinks* or *believes* that to be true which he must know to be false. Such extreme “professional witnesses” may damage alike their clients and calling, in forgetting bounden duty to testify to facts and conscientious con-

clusions, unlike counsel, who, as simply representing from briefs clients of whom personally they know nothing, are customarily understood, not to state at the bar their own belief or opinion, but to argue on the evidence of others and on the law, leaving the merits of the matter to be decided by the tribunal. Future histories of the rise of railways and quaint notes by writers on our social characteristics will probably curiously commemorate these singular surveyors,—

“ Stiff in opinions, always in the wrong,” .

as the jest of juries, the aversion of arbitrators and the sport of speculators.

Second Division.

THE VALUATION OF PROPERTY.

RELATIVE VALUE OF PROPERTY.

NO ABSOLUTE CRITERION.

There is no mathematical, inflexible or constant criterion for clear settlement beyond dispute of opposite opinions touching the worth of property. A valuation by a competent person is simply an approximation to truth, based on rates at which experience teaches that transfers are generally effected, special circumstances or peculiar personal reasons, as where another motive than securing current profit on outlay intervenes, inducing occasional although seldom very material differences in recognised ratios, which also together fluctuate with the money market or funds and the phases of public opinion.

FREEHOLDS.

Thus, as the value of landed estate borders upon the sum paid for 3 p. c. consols, if these are as 99, 90 or 81, extensive freeholds often waver as 33, 30 or 27 years purchase (or rather less or with deduction proportionate to law

costs), obtained by dividing the price of consols by the above rate of interest. While in this country an investor in land derives, from its manifold and special characteristics as an "institution" in itself, superior political, moral and social standing to one who, other things being the same, has equal wealth in the funds, the latter, from "the sweet simplicity of the Three-per-cents," obtains his return with much smaller trouble, incurs less liability, and can realise infinitely cheaper and quicker. Still land is tangible and imperishable, and of primordial, constant and natural necessity. It is moreover capable of considerable increase in intrinsic worth, it rarely continues unlet or unprofitable, and it may present opportunities for enjoyment in cultivation, improvement, contemplation and sport, or afford occasion for profitable speculative activity. While also land augments, gold diminishes in value.

Houses constituting with appurtenant ground one property in fee simple, the owner representing freeholder and builder, may rapidly diminish in price, thus usually contrasting forcibly with land, wearing involving repair and rebuilding; but there is the great advantage of untrammelled permanency of possession, even the lowest class of dwellings, those let weekly, being more desirable than is commonly supposed, and often yielding considerable interest.

GROUND RENTS.

Ground rents rank high in the market, from being secured by structures of more annual value, with power to re-enter for breach of covenants, and, besides usual remedies for debt, authority to distrain on premises or in any of the houses on which charges in arrear may be jointly assessed, and responsibility is not suspended in case of destruction of buildings, the covenant to insure and rebuild also otherwise meeting this contingency. Besides, superior ground rents are said to be less changeable in current price

than consols, whilst yielding as much or more interest. Some fetch 33 years purchase, which is equal to consols at 99; and of course it is often worth a tenant's while to give far more than another person, even 40 or 50 years purchase to cancel covenants. On the other hand, consideration must be given to title, to duration of structures, to cost of re-erection, to likelihood of again leasing land to one who will build, to changes in neighbourhoods leaving property long unlet inducing its forfeiture, and also to amount of land tax, which is payable whether or not premises are tenanted. Instead of freehold, ground rent may be only leasehold, subject to additional danger from breach of covenants, and "improved" beyond the sum at which the freeholder originally let the land, and perhaps (as hereafter indicated) above the rent of similar adjacent property and irrelatively to the beneficial value. Again, ground rent may not be secured at all by buildings. Safe and very desirable ground rental should generally not be more than a fifth or sixth of moderate house rental, the price usually rising proportionately with the sum by which it is covered. Reversions, unless within half a century, are not much considered in valuing ground rents, because of remoteness and uncertainty respecting the future of localities. Rent payable yearly is evidently not so advantageous to the landlord as if payable half-yearly or quarterly, when he can immediately invest.

LEASEHOLDS.

Notwithstanding there is scarcely any difference between the years purchase at which similar freeholds and ninety-nine years leaseholds are valued under the same rate of interest, buyers of the latter rightly require from about $\frac{1}{2}$ to 2 p. c., or upwards beyond the price of the former, on account of terminal possession, subjection to ground rent and to covenants, liability to forfeiture, &c. As lease-

holds near other hands, depreciation becomes striking; and, independently of dilapidations accumulating, ground rent, land tax and insurance must be paid, although property is unoccupied. Besides, leaseholds are subject to probate duty, freeholds being exempt. Other important questions are, whether the holding is from the freeholder or by underlease or by assignment of the term of a lessee, and whether premises are leased with others; for if forfeiture from non-observance of covenants is incurred on property jointly demised, the superior landlord may proceed for possession of the whole. Yet if the value is properly estimated, with due allowance for unoccupation, for casualties and trouble in obtaining rent, for restrictions touching alterations and trade points, for liability to forfeiture, and for other matters, objections can be obviated and a very satisfactory return obtained. Short leaseholds, commonly at low ground rents fixed when values were different, may, after allowing for closing dilapidations, be bought to pay a startling per centage. Improved rentals, often for short terms, may not endure, and the purchaser becomes liable for the original rent.

With regard to renewable leaseholds and reversionary and life interests, reference is hereafter made under *Rules for Calculations*.

COPYHOLDS.

Property held by copy of court roll, although frequently advertised as equal to freehold, is mostly at least 2 or 3 years purchase less valuable, even where fines are fixed and moderate, but if arbitrary and onerous and heriots are not commuted for definite payments, the reduction is still greater. No purchaser undertaking the seller's liabilities to the lord can fairly be expected to pay fee simple price, however clearly and unexpensively title to copyhold may be established. For copyholds subject to fines of 2 years

value, 5 years purchase is often deducted from freehold figure. One mode of estimation is by ascertaining worth in fee simple less enfranchisement expenses, which may sometimes be taken roughly at about one-fifth, one-sixth or less, of the former appraisement.

It is difficult to fix abatement of copyholds through barbarous heriot customs, derived from the Danes, of the lord entering a dead tenant's premises and seizing, in some manors his best chattel, in others his best live chattel, or either at pleasure, as a peerless racehorse, a precious work of art, or a priceless jewel or heirloom; the famous Smolensco, the "Chapeau de Paille" and the Pitt diamond having respectively been thus endangered. "If," says Lord Cranworth, "this were stated as being the law prevailing in Madagascar, would it be believed such a thing could possibly exist where law prevailed at all." Land in lots or several tenements may often be practically valueless from each being subject to separate heriots, depending, not on the worth of the tenure but on that of the tenant, and also to separate fees; independently, as regards objections to copyholds generally, of improvement in buildings, repairs, drainage, cultivation, &c., being retarded by oppressive fines following increased value, and of deterioration promoted by prohibitions to fell timber, to inclose, build, pull down or re-erect structures, all involving waste and forfeiture. Where not deterred by limited leasing power (also a serious objection to church, collegiate and corporate property) and the uncertainty of numerous usages, a copyholder naturally pauses before erecting a house which may entail a proportionately augmented fine of two years value at his decease. Worse than all is his hapless plight where a field, or even a dwelling, is on different manors under different lords and different customs, perhaps too intermixed with freehold, and there are several titles, while the boundaries are ascertainable only at absurdly incommensurate expense.

Many of the above with other forcible objections are

often concealed or ignored by vendors; and as customs vary, being only slightly irksome in some districts while intolerable in others, the fines, if not particularised, should be ascertained, with the steward's fees, due on each separate manor, the quit rents, heriots and other particulars; also whether the lord is moderate and just or unreasonable and despotic, likely to commute heriots into definite payments, license to lease, &c.

With rare exceptions, where the lord is compelled to admit, it is established, quoting Scriven, that "the fine on admission to copyholds of inheritance, or for lives when renewable, even if arbitrary, must be reasonable; and two years improved value of the land, deducting quit rents but not land tax, is the fullest extent which the courts will allow the lord to demand in the exercise of his arbitrary power." "Whether a fine be reasonable or not," Shelford remarks, "is for the determination of a jury, upon the evidence to be submitted on behalf of both the lord and tenant." In his "Treatise on Copyholds" Caswall says:—"The fines payable by copyholders in ancient demesne, customary freeholders and copyholders of inheritance are generally fines certain; and are either absolutely fixed, as five shillings, or relatively certain, as so many years value of the copyhold. The only question to be decided is, what is the annual value; and from this the quit or reserved rent is to be deducted, but not the amount of land tax, or any incumbrance which is not absolutely permanent. The fines vary from one year and a half to two years annual value on death of tenant in possession, and from one years annual value to one and a half upon sale. As to fines payable by copyholders for lives, where the fines are arbitrary, which is almost always the case, they are assessed according to the age or ages of the life or lives in possession and the age or ages of the lives proposed to be added." Valuable particulars are given of terms for joint tenancies, several lives, &c.

MORTGAGES.

Lord Mansfield invested solely in mortgages, observing that;—"The funds give interest without principal, and land principal without interest, but mortgages both principal and interest." For the interest obtainable, mortgages may be so arranged at 5 or 6 p. c. under or 4 or 5 p. c. above, say £1000, or at $3\frac{1}{2}$ to $4\frac{1}{2}$ p. c. on freehold agricultural land or landed estate, $4\frac{1}{2}$ to 5 p. c. on good freehold houses, and 5 to 6 p. c. on long leaseholds, as to constitute singularly eligible, practically realisable and sound securities. No costs are defrayed by the lender; and thus those of proving title may be too burdensome to the borrower, rendering it preferable to raise money otherwise, leaving land and houses as last resorts. Rarely four-fifths, often three-quarters, usually not above two-thirds, and sometimes only one-half of the value of property, according as it is land, freehold, leasehold, or more or less secure or realisable, is advanced. A reduction in value from that of freeholds should be made for copyholds, and a considerably greater one for leaseholds, especially if short, the security diminishing with the term, and because, like copyholds, of subjection to forfeiture. Second or following mortgages are proportionately dangerous, the first lender having to be first satisfied. It may be a critical consideration to the mortgagor whether the mortgagee wishes a permanent investment or is likely to require his principal or a different security, thus involving trouble, risk and cost in turning over this mortgage to another person if it is desired to continue it. *Equities of redemption* are often bought, the purchaser taking the responsibilities of the borrower. According to Mr. Williams,—“The larger proportion of the lands in this kingdom is at present in mortgage.”

Building societies advance money to borrowing members on mortgage of houses up to three-fourths or four-fifths

value, repayable in monthly or quarterly instalments, as in the shape of extra rent, the interest being practically, taking the whole period of loan, about 10 p. c. per annum; and thus, with fines, fees, &c., often affording ample profit to investing members, who must however take care to select an association whose principles or system of working, scope or extent of operations, and respectability or management, appear altogether consonant with established and permanent prosperity.

TABLE OF AVERAGE MARKET VALUES.

	Per cent.	Years purchase.
Freehold land	3—3½	33—28
Ground rents, well secured: freehold	3⅓—4	30—25
" " long leasehold	5—6	20—16
Freehold houses: substantial .	4—6	25—16
" inferior, or low rented . .	7—9	14—11
Leasehold houses: substantial . .	5—7	} See table for y.p. opposite term and under interest.
" inferior, low rented or short terms	8—10	
" may be often taken—		
1 and 2 class .	5—6	
3 " 4 " .	7—8	
5 " 6 " .	9—10	
Copyholds } Mortgages }	See previous headings.	

INTEREST, RENTAL AND DEDUCTIONS.

INTEREST WITH YEARS PURCHASE.

As has been seen, the primary consideration in valuations is the market rate of interest at which an investment should be calculated. From this is deduced the number of years purchase of net yearly worth, which in the case of perpetuities or freeholds is obtained by dividing 100 by the desired rate of interest. Thus, if 5 p. c. interest is proposed, dividing 100 by 5 gives 20 years purchase; and supposing property, after deducting outgoings, returns a clear annual profit or rent of £50, this multiplied by 20 years purchase produces £1000 as the value. The same rule applies nearly to very long leaseholds for certain terms, giving rather too high a price; but not at all to short terms for which reference must be made to the first table in *Rules for Calculations*, the last line in it pertaining to perpetuities. The table being calculated, not at simple but at compound interest, or that arising both from principal and interest, besides the dividend or per centage for interest, part of the principal or capital is at the same time returned, which surplus beyond the interest if reinvested as a sinking fund at the same rate amounts at the end of the term to the purchase money; this being thus not absorbed and lost as the condition of obtaining the high so-called interest properties are sometimes advertised to pay.

For instance, suppose a person expends £100 in purchasing a lease for 24 years at about 9, or accurately in decimals 8.985, years purchase, the interest, according to the table, is 10 p. c.; but he actually receives 11.129, or £11 2s. 7d. per annum (for, by the rule of three, if 8.985,

nearly £9, produces £1 a year, £100 produces £11.12.9; or by the rule for leases stated hereafter, dividing the outlay by the years purchase gives the rent £11 2s. 7d.), and which income or rent is by erroneous computation sometimes called the rate of interest for the purchase money, while it is also part of the principal which is being continuously replaced. If now, the surplus income of £1 2s. 7d. is improved at interest at 10 p. c. it will in 24 years amount to the purchase sum of £100, which may be considered as only *lent* for the period, to be gradually returned, when it may again be advanced in the purchase of a similar lease, and after that another, and so on, thus equalling a perpetuity.

But if it is proposed to invest an annual instalment or reserve fund sufficient to restore the sum sunk at the end of the term, additional to the interest received, it must be remembered that safe and permanent investments of this kind can rarely be readily made otherwise than in the funds, and that when a lease is bought at the years purchase shown under the 10 p. c., or even the 5 p. c. column, the probability is presumed of conveniently reinvesting the surplus year by year at such rate and in small sums. If also, although disregarded in practice, payments and reinvestments are made half-yearly, tabular values should be increased about $\frac{1}{5}$, and if quarterly, about $\frac{3}{10}$ of a years purchase. Nevertheless, the table given is that ordinarily used to obtain actual market value, although other tables are procurable showing by inspection the rate of interest and years purchase allowing for an annual sinking fund at another rate which will reproduce the principal at the expiration of the term; or, again, showing the annual sinking fund to provide £1 at a stated period and interest. The amount of yearly sinking fund is calculated by dividing the capital required at the time by the sum to which £1 per annum will then accumulate; *as in the above instance*, dividing £100 by 88.497, the

amount of £1 per annum in 24 years at 10 p. c., gives £1 2s. 7d. So in a table of the amount of £1 per annum at a certain compound interest in a certain time, if twice or thrice this sum is requisite, twice or thrice £1 must be invested year by year.

RENTAL.

Although caution is necessary to defeat imposition when sham or factitious temporary rents are created or assumed by connivance between landlords and tenants or otherwise, still if both local inquiries respecting similar property and if it is likely to improve or decline, with independent calculations, as of cost and deterioration, are made, the fair or probable sum can usually be accurately or sufficiently ascertained; but even genuine and long unchanged rental is not invariably a sure criterion, as circumstances may temporarily or permanently raise or lower it; or rent may have been fixed otherwise than at intrinsic rate by reason of deficient judgment, peculiar circumstances, personal motives, exceptional conditions, presumed dormant worth, &c.; or there may be a lease granted when values were different, or for a premium or some extraneous consideration; or rent may have been improved, like one of ground, or be on an increasing scale.

The class of tenants is of serious concern, with their degree of responsibility and also of liability. Income of persons between the poorer and richer middle class, or between the upper sections of lower and middle life, commonly ranges between about 5 and 10 times the rent paid for private houses in cities and large towns. Professor Levi says that,—“as a general rule, we may take it for granted that the rent of the house constitutes about 10 or 12 p. c. of a person's income, though there may certainly be found cases where a business man, earning £10,000 a year, may live in a house rented at not more than £500; and a widow lady, earning but a small pittance, may live

in a house to let for lodgings, at £50 or £70 a year." He gives the scale: income, £200, 300, 500, 1000, 2000; rent, £25, 37 10, 60, 120, 240.

It may be mentioned that the great difficulty oftentimes is to ascertain the value of land, that of the buildings on it, their cost and deterioration being far more easily determined.

NATURE OF DEDUCTIONS.

When the equitable rent is fixed, it is obviously of the utmost importance to ascertain precisely what may be relied on throughout a certain time as the net annual surplus remaining after deducting all outgoings from the gross or rack rent, so as to reduce it to a clear annuity.

First is the ground, quit or other reserved rent, or any rent charge, with an annual allowance for any fine for renewal, additional to what may be immediately due.

Next is the cost of repairs, which none but an architect, surveyor or builder can estimate correctly, the obvious inaptitude of many estate agents and auctioneers, perhaps also "surveyors" without any practical knowledge of building, often quite falsifying in the long run expectations formed. For much and varied technical experience is plainly requisite to calculate, not merely just allowance for annual repairs and reinstatements but also probabilities relative to ultimate impairment; even a dozen years wear and tear of some prim properties, bought perhaps with the hardly-earned savings of a lifetime as the support or retreat of old age, constantly inducing riddance of them as a nuisance and a curse. Expenses of improvements that may be desirable or necessary on account of unsuitability to locality or purpose, defective arrangement or deficient accommodation, should also be considered, as well as any actual dilapidations (out of sight, as to drains, and settlements plastered over) or necessary repairs, together with

possible future re-erection of party structures, &c. Premises should be valued as in condition for letting at the assumed rental; but sometimes there is deducted from rack rent the estimated cost of repairs and alterations to be done by a proposed tenant, in the shape of a per centage, or value of an annuity for the term to be granted, in which the lessee covenants to repair and maintain, so that the lessor may expect an improved estate at the expiry of the lease. For 15 years, 10 p. c. per annum on outlay, falling to 5 p. c. for about 30 years upwards, is sometimes allowed: or similarly, 10 p. c. graduating to 5 p. c. where rental ranges from £25 to £100 upwards; deducting also for ordinary yearly repairs.

Another deduction is for fixtures if purchased separately. But distinct sale is objectionable, especially by valuation, as the charge being by commission articles are often over-estimated. As the worth of fixtures bears no proportion to that of houses, an inclusive price should be named for both, except perhaps as regards articles belonging to third parties. Rent for fixtures is sometimes taken at 2s. 6d. in the £.

Then taxes and rates have to be reckoned. Leases recite which are to be borne respectively by landlord or tenant; but property tax is disregarded as payable on any investment. In annual tenancies, the landlord sometimes discharges other imposts for which he instead of or besides the tenant is legally liable; and in weekly tenancies he usually pays all rates and taxes; but intending investors should ascertain precise obligations.

Among sundry expenses are: surveying, legal and other costs in transfer; landlord's liabilities in arrear; any unpaid assessments of gross sums on buildings for new roads and pavements when taken by or *dedicated* to the parish, or for sewerage, &c.; and generally every outlay prior to possession; with future annual charges, optional or otherwise, as insurance, collection, &c.; also in new or unlet premises, allowance for suspension of rent.

Lastly, various contingencies are not to be ignored: as fluctuations in population and desirability of localities, especially respecting fashion, gentility and dependance on local manufactures or trades; likely changes, businesses or institutions in neighbourhoods affecting attractiveness, salubrity, &c.; conversion of adjoining premises to objectionable purposes; similarly structural or other alterations or additions to them; and generally, presumptive mutations around, as over-building, affecting rent; probable future expenses in formation of adjoining road or sewer, with drainage into it, by local authorities or otherwise; introduction of constant water supply; possible new imposts; loss or default of tenants; whether terms of letting can be maintained; and prospects of collection and management.

AMOUNT OF ANNUAL DEDUCTIONS.

It is obviously impossible to determine a universally applicable proportion, yet in and about the metropolis it may generally be assumed with regard to dwellings of moderate pretension that the landlord's outgoings of taxes and rates falling legally on him, excluding property tax but including insurance, with also $\frac{1}{10}$ or 10 p. c. for repairs, will be about *one-seventh* or *one-eighth* of the rack rent.

The whole of both landlord's and tenant's taxes and rates, excluding property tax and including water rate, will often be from less than *one-third* of the gross rent to about *one-fourth* where rates are moderate, or generally something between the two.

For weekly properties, assuming repairs as low as $\frac{1}{10}$ and allowing also 10 p. c. for casualties and loss of tenants, the above, with taxes, rates, insurance and 5 p. c. for collection, will always be well within *one-half* of the rack rent; and where tenants are desirable, assessments

moderate and repairs trifling, a deduction of *one-third* may suffice.

Outgoings can however be assessed in detail as next indicated.

TAXES, &c.

Taxation varies in the same district at different times and in different districts at the same time; and special inquiry should be made.

Property tax has ranged from *2d.* to *1s. 4d.* in the pound.

Duty on inhabited dwellings of the annual value of £20 is *6d.* in the pound where occupied for sale of goods, or as farm houses by tenants or servants: otherwise *9d.*

Poor rate may be *4s.*, or nearly *5s.*, in the pound in poor, or less than *6d.* in wealthy parishes: for the metropolis as a whole, it averages probably rather more than *1s. 6d.* per annum, its unequal incidence being intolerably unfair.

Consolidated or Metropolitan Board rate may be taken at about *4d.*; local sewer rate at *2d.*; and general rate, including lighting and education, sometimes at *1s. 6d.* in the pound.

In one heavily burdened London parish, the rates have been recently; poor *4s. 11d.*, general *1s. 4d.*, consolidated *4d.*, education *2d.*, and sewer *2d.*, on rateable value, excluding assessments on property, land and houses.

By the Valuation of Property (Metropolis) Act, 1869, 32 & 33 Vict. c. 67, the property and house taxes are to be made on gross value, and the other above named rates on rateable value. "The term *gross value* means the annual rent which a tenant might reasonably be expected, taking one year with another, to pay for an hereditament, if the tenant undertook to pay all usual tenant's rates and taxes, and tithe commutation rent charge, if any, and if the landlord undertook to bear the cost of the repairs and insurance, and the other expenses, if any, necessary to maintain

the hereditament in a state to command that rent. The term *rateable value* means the gross value after deducting therefrom the probable annual average cost of the repairs, insurance and other expenses as aforesaid." To obtain rateable value, the maximum deductions from gross value are: for dwelling houses, without land other than gardens, under the gross value of £20 per annum, 25 p. c. or $\frac{1}{4}$; of the value of £20 and under £40, 20 p. c. or $\frac{1}{5}$; of the value of £40 upwards, 16 $\frac{2}{3}$ p. c. or $\frac{1}{6}$; and so on for other properties.

Under the 32 & 33 Vict. c. 41, commission is allowed to owners who pay rates of small houses.

Land tax is unequally assessed; and it may be only a farthing or halfpenny, or 4*d.* or 6*d.*, as common in London, or 2*s.* 6*d.* or more in the pound. Land tax redeemed but not exonerated is commonly sold to pay purchasers about 5 p. c., evidence of redemption being the certificate of the commissioners or a copy of the register. But to redeem land tax so much must be given as will buy consols paying an annuity exceeding the tax purchased by $\frac{2}{10}$ or 10 p. c.

Tithe commutation rent charge varies with the average yearly price of corn for seven preceding years. The general average value of £100 rent charge since the passing of the Tithe Commutation Act in 1836 is £101 *1s.* 7 $\frac{3}{4}$. Rent charges may be bought at about 18 to 20 years purchase after deducting rates and collection.

Water rate is often about 5 p. c. (*1s.* in the £) on rack rental, without extra supply for garden, bath, &c.; but if the company's profits are above the statutory amount, reduction in price is to be made. Some companies charge half-rate on unoccupied houses; but empties are not usually assessed.

Insurance is: common risk *1s.* 6*d.*, hazardous 2*s.* 6*d.*, and doubly hazardous 4*s.* 6*d.* p. c. On brick and slated buildings, it should be on not less than two-thirds, and on timber

or thatched buildings, on not less than three-fourths value; but as rates are low it is well to insure for full cost of re-erection.

Collection and management, 5 p. c. on rent received; but where there is little trouble, $2\frac{1}{2}$ p. c.: or 5 p. c. if rent is below and $2\frac{1}{2}$ p. c. if above £50.

Casualties, as loss of tenants or rent, 5 to 20 p. c., or more.

REPAIRS.

One-tenth of the rack rent of fairly built medium houses in good condition is usually amply adequate for annual repairs: for other houses, much less is requisite; or more may be insufficient spread over the term, dilapidations at its close being included. It is clear that reliance can be placed only on competent survey in each case; and also that, as rent differs with localities and value of land for houses of the same building cost, this last should generally be taken as the criterion; when repairs will vary from 1 to 2 or more p. c. per annum on outlay, according as premises are new or old, or are substantially or flimsily constructed. Expenses of immediate repairs, alterations and improvements are also to be reckoned. Allowances to tenants have been before noticed.

PROFESSIONAL CHARGES.

For reporting whether a medium house is well built, its general condition and the average yearly cost of repairs, 1 to 3 guineas is a fair fee; and for estimating rental, 1 or 2 guineas.

It is desirable to make an agreement for valuations. Some surveyors charge, 1 p. c. on the first £1000, and $\frac{1}{2}$ p. c. on further amounts up to £10,000; while a

modified scale is; $\frac{1}{2}$ p. c. on the first £1000, $\frac{3}{8}$ p. c. on the next £4000, $\frac{1}{4}$ p. c. on the next £5000, and $\frac{1}{8}$ p. c. on more than £10,000. Other surveyors charge; 5 p. c. up to £100, thence to £500, $2\frac{1}{2}$ p. c., thence to £1000 $1\frac{1}{2}$ p. c., thence to £5000, $\frac{3}{4}$ p. c., thence to £10,000, $\frac{1}{2}$ p. c., and on further sums $\frac{1}{4}$ p. c. Valuation fees for mortgages are often assessed on the amount of loan.

In simple cases involving only ordinary trouble the lessor's solicitors charges, acting for both parties, in preparing a common lease and counterpart will be about £6; but the lessee may desire to consult his own solicitor, and referring the matter partly to him, as for approval of drafts, &c., will probably cost £1 10s. or £3. The above does not include stamps, inquiries touching title or registration. Similarly, conveyance of the freehold of such a property should be rather less. Assignments or surrenders may be economically effected by endorsement on original deeds.

For plans on deeds, the charge is about 1 to 2 guineas the pair, exclusive of *taking* the plans.

Purchasing small plots of ground otherwise than through joint-stock companies, buying large estates for resale in small lots, or building land societies (some of which are mere muddles with properties of extremely fragile tenure, as sometimes first found out by shareholders when negotiating sales with prudent purchasers doubting title dating merely from conveyance to the association), is often practically unjustifiable, from expenses of investigating title, &c., amounting to $\frac{1}{5}$, $\frac{1}{3}$, $\frac{1}{2}$, or to more than value, "the brokerage eating up the bargain"; while for large quantities, costs may be 5 to $2\frac{1}{2}$ p. c. on worth or less, according to increased extent or price. On £100, 10 p. c., falling to 5 p. c. on £1000, are moderate charges, although there is no uniform gradation; and an acre may involve either less or more trouble than a thousand acres. Comparatively with freeholds, title to copyholds is usually *expensively* ascertained from the rolls. But transformation

of some comparatively selfish cultivators into small or peasant proprietors, as in France, Austria, Prussia, Italy, &c. (often doubling produce, while really benefiting large proprietors, and crushing communism) seems impracticable in England at present, unless by forming agricultural land societies; "this not being a country," Mr. Justice Maule ironically observes, "in which there is one law for the rich and another for the poor." Intending buyers of land or buildings should scrutinise conditions of sale, determine whether they require a perfect title, and if possible stipulate that a definite sum shall not be exceeded.

STAMPS.

The Stamp Act, 1870, 33 & 34 Vict. c. 97, fixes the following duties.

Conveyance or transfer on sale. Duty, 6d. on every £5 or part of £5 up to £25; 2s. 6d. on every £25 or fraction of £25 up to £300; and above this, for every £50 or part of £50, 5s.

Mortgage or bond. Payment or repayment not exceeding: £25, 8d.; £50, 1s. 3d.; £100, 2s. 6d.; £150, 3s. 9d.; £200, 5s.; £250, 6s. 3d.; £300, 7s. 6d.; and above this, for every £100 or part of £100, 2s. 6d. Transfer or assignment of mortgage, also reconveyance or discharge, for every £100 or part of £100, 6d.

Lease at annual rent without premium. Term indefinite, or definite and not above 35 years, and rent not exceeding: £5, 6d., 10, 1s.; £15, 1s. 6d.; £20, 2s.; £25, 2s. 6d.; £50, 5s.; £75, 7s. 6d.; £100, 10s.; and above this, for every £50 or part of £50, 5s. Term definite and exceeding 35 but not above 100 years, and rent not above: £5, 3s.; £10, 6s.; £15, 9s.; £20, 12s.; £25, 15s.; £50, £1 10s.; £75, £2 5s.; £100, £3; and above this for every £50 or part of £50, £1 10s. Leases for which both premium or fine and rent are paid are charged both as leases and conveyances. Agreements for leases or with respect to letting lands or tenements for any term not exceeding 35 years are charged with the same duty as actual leases; but subsequent

leases in conformity with agreements duty stamped are charged with the duty of 6*d.* only.

Surrender, not chargeable with duty as a conveyance on sale or mortgage, 1*os.*

Appraisalment or valuation. Not exceeding: £5, 3*d.*; £10, 6*d.*; £20, 1*s.*; £30, 1*s.* 6*d.*; £40, 2*s.*; £50, 2*s.* 6*d.*; £100, 5*s.*; £200, 10*s.*; £500, 15*s.*; above £500, £1. *Awards*, the same, but not exceeding £750, £1; £1000, £1 5*s.*; and in other cases, £1 15*s.*

Duplicate or counterpart of any instrument. Where the duty does not amount to 5*s.*, the same as on the original instrument; and in any other case 5*s.*; but, except counterparts not executed by lessors, duplicates and counterparts are not deemed duly stamped unless as original instruments, or it appears by stamp thereon, duty has been paid on original instruments.

Penalties in the case of unstamped or insufficiently stamped instruments are generally £10, with unpaid duty.

SUMMARY OF DEDUCTIONS AND ADDITIONS.

Deductions in certain cases.

Ground, quit or reserved rent.

Immediate fine. Annual proportion of renewal fine of (£140) every (14) years equals (£10).

Land tax, tithe rent charge and other imposts falling on landlord.

Spécial outgoings

Insurance (1*s.* 6*d.*) on (£500) value equals (7*s.* 6*d.*).

Casualties (7) p. c. on (£100) rent equals (£7).

Collection (5) p. c. on (£100) rent equals (£5).

Annual repairs (10) p. c. on (£100) rent equals (£10).

Present Repairs (£120) divided by (20) y. p. at (5) p. c. equals (£6) yearly.

Then calculate: net rent (£100) and unexpired term or duration of building (36) years, at (7) p. c. worth (13) y. p. or (£1300).

Next consider: cost of immediate repairs, alterations and

improvements if not before taken. Fixtures. Future sewer, paving, &c. Defective party structures, &c. Imposts in arrear. Suspension of rent. Professional expenses.

Additions in certain cases.

Reversionary interest in land, ground, rack or extra rent of (£100) after (33) years at (5) p. c. giving (20 less 16, or 4) y. p. capitalised at (£400).

Outlay on improvements (£300) which at (7) p. c. adds (£21) to rent: or for additional rent to be returned during a term of (27) years with (7) p. c. interest, divide principal (£300) by (12) y. p. equalling (£25).

Timber, buildings, fixtures, &c.

Old materials worth (£100) at end of term of (40) years, giving present value, discounting at (5) p. c. (£14).
Compulsory sale. Severance.

RULES FOR CALCULATIONS.

USE OF TABLES.

The two tables commonly wanted and given hereafter are for leases for certain terms and for leases on one life; but rules are stated for applying other tables in occasional use, their insertion being beyond the scope of a work intended chiefly to indicate modes of procedure, all that might be desired occupying a volume; and "Inwood's Tables" is recommended.

The tables are calculated at compound interest, allowing the *buyer* the chosen per centage and an annual surplus, or sinking fund, for reinvestment at the same rate year by year to recoup the purchase money at the end of the time. Adoption of three, four or preposterously eight, figures of decimals (tenths) is generally a fruitless refinement, although some examples are included of their application; and the second table illustrates the use of only one point, as mostly sufficient in so precarious a matter as life.

On reference to the first table, it will be perceived that decimal .25 equals the fraction $\frac{1}{4}$, .50, $\frac{1}{2}$, and .75, $\frac{3}{4}$. The whole number with the two decimals denote, not only years purchase, but also present value of each pound of annual return (4.50 or $4\frac{1}{2} = \text{£}4\ 10\text{s.}$); and, suppressing the decimal point, the three numbers ($\text{£}450$) represent the value in pounds of each $\text{£}100$ of clear income.

TABLE FOR PURCHASING LEASES OR OTHER ESTATES HELD FOR FIXED TERMS YEARS; OR THE PRESENT VALUE OF £1 PER ANNUM FOR ANY NUMBER OF YEARS.

YEARS.	YEARS PURCHASE.									
	3 p. c.	4 p. c.	5 p. c.	6 p. c.	7 p. c.	8 p. c.	9 p. c.	10 p. c.		
1	0'97	0'96	0'95	0'94	0'94	0'93	0'92	0'91		
2	1'81	1'80	1'80	1'83	1'81	1'78	1'76	1'74		
3	2'83	2'78	2'72	2'67	2'62	2'58	2'53	2'49		
4	3'72	3'63	3'55	3'47	3'39	3'31	3'24	3'17		
5	4'58	4'45	4'33	4'21	4'10	3'99	3'89	3'79		
6	5'42	5'24	5'08	4'92	4'77	4'62	4'49	4'36		
7	6'23	6'00	5'79	5'58	5'39	5'21	5'03	4'87		
8	7'02	6'73	6'46	6'21	5'97	5'75	5'54	5'34		
9	7'79	7'44	7'11	6'80	6'52	6'25	6'00	5'76		
10	8'53	8'11	7'72	7'36	7'02	6'71	6'42	6'15		
11	9'25	8'76	8'31	7'89	7'50	7'14	6'81	6'50		
12	9'95	9'39	8'86	8'38	7'94	7'54	7'16	6'81		
13	10'64	9'99	9'39	8'85	8'36	7'90	7'49	7'10		
14	11'30	10'56	9'90	9'30	8'75	8'24	7'79	7'37		
15	11'94	11'12	10'38	9'71	9'11	8'56	8'06	7'61		
16	12'56	11'65	10'84	10'11	9'45	8'85	8'31	7'82		
17	13'17	12'17	11'27	10'48	9'76	9'12	8'54	8'02		
18	13'75	12'66	11'69	10'83	10'06	9'37	8'76	8'20		
19	14'32	13'13	12'09	11'16	10'34	9'60	8'95	8'37		
20	14'88	13'59	12'46	11'47	10'59	9'82	9'13	8'51		
21	15'42	14'03	12'82	11'76	10'84	10'02	9'29	8'65		
22	15'94	14'45	13'16	12'04	11'06	10'20	9'44	8'77		
23	16'44	14'86	13'49	12'30	11'27	10'37	9'58	8'88		
24	16'94	15'25	13'80	12'55	11'47	10'53	9'71	8'99		
25	17'41	15'62	14'09	12'78	11'65	10'68	9'82	9'08		
26	17'88	15'98	14'38	13'00	11'83	10'81	9'93	9'16		
27	18'33	16'33	14'64	13'21	11'99	10'94	10'03	9'24		
28	18'76	16'66	14'90	13'41	12'14	11'05	10'12	9'31		
29	19'19	16'98	15'14	13'59	12'28	11'16	10'20	9'37		
30	19'60	17'29	15'37	13'77	12'41	11'26	10'27	9'43		
31	20'00	17'59	15'59	13'93	12'53	11'35	10'34	9'48		
32	20'39	17'87	15'80	14'08	12'65	11'44	10'41	9'53		
33	20'77	18'15	16'00	14'23	12'75	11'51	10'46	9'57		
34	21'13	18'41	16'19	14'37	12'85	11'59	10'52	9'61		
35	21'49	18'67	16'37	14'50	12'95	11'66	10'57	9'64		
36	21'83	18'91	16'55	14'62	13'04	11'72	10'61	9'68		
37	22'17	19'14	16'71	14'74	13'12	11'78	10'65	9'71		
38	22'49	19'37	16'87	14'85	13'19	11'83	10'69	9'73		
39	22'81	19'58	17'02	14'95	13'26	11'88	10'73	9'76		
40	23'12	19'79	17'16	15'05	13'33	11'93	10'76	9'78		
41	23'41	19'99	17'29	15'14	13'39	11'97	10'79	9'80		
42	23'70	20'19	17'42	15'23	13'45	12'01	10'81	9'82		
43	23'98	20'37	17'55	15'31	13'51	12'04	10'84	9'83		
44	24'25	20'55	17'66	15'38	13'56	12'08	10'86	9'85		
45	24'52	20'72	17'77	15'46	13'61	12'11	10'88	9'86		
46	24'78	20'89	17'88	15'52	13'65	12'14	10'90	9'88		
47	25'03	21'04	17'98	15'59	13'69	12'16	10'92	9'89		
48	25'27	21'20	18'08	15'65	13'73	12'19	10'93	9'90		
49	25'50	21'34	18'17	15'71	13'77	12'21	10'95	9'91		
50	25'73	21'48	18'26	15'76	13'80	12'23	10'96	9'92		
55	26'77	22'11	18'63	15'99	13'94	12'32	11'01	9'95		
60	27'68	22'62	18'93	16'16	14'04	12'38	11'05	9'97		
65	28'45	23'05	19'16	16'29	14'10	12'42	11'07	9'98		
70	29'12	23'40	19'34	16'39	14'16	12'44	11'08	9'99		
75	29'70	23'68	19'49	16'46	14'20	12'46	11'09	9'99		
80	30'20	23'92	19'60	16'51	14'22	12'47	11'10	10'00		
85	30'63	24'11	19'68	16'55	14'24	12'48	11'10	10'00		
90	31'00	24'27	19'75	16'58	14'25	12'49	11'11	10'00		
95	31'32	24'40	19'81	16'60	14'26	12'49	11'11	10'00		
100	31'60	24'51	19'85	16'62	14'27	12'49	11'11	10'00		
Perp.	33'33	25'00	20'00	16'67	14'29	12'50	11'11	10'00		

Thus, £50 per annum for 35 years at 6 p. c. is worth 14½ p. c. or £725.

FREEHOLDS.

To find the sum to be paid for a freehold. Multiply the clear annual rent by the years purchase obtained by dividing 100 by the desired rate of interest (or by reference to the last line in the preceding table); or multiply the clear annual rent by 100, and divide the product by the intended rate of interest. The former rule is quicker where the years purchase is an even number, and the latter where it is fractional or not exactly known. Years purchase also results from dividing value by rent.

$\begin{array}{r} \text{£ } 50 \text{ Rent} \\ 20 \text{ y. p. at } 5 \text{ p. c.} \\ \hline \text{£ } 1000 \text{ Value} \\ \hline \end{array}$	$\begin{array}{r} \text{£ } 50 \text{ Rent} \\ 100 \\ \hline \text{Interest p. c. } 5) 5000 \\ \hline \text{£ } 1000 \text{ Value} \\ \hline \end{array}$
---	---

To find the clear annual rent. Multiply the sum expended by the desired rate of interest, and divide by 100.

$$\begin{array}{r} \text{£ } 1000 \text{ Expended} \\ 5 \text{ p. c. interest} \\ \hline 100) \text{£ } 5000 \\ \hline \text{£ } 50 \text{ Rent} \\ \hline \end{array}$$

To find the rate of interest allowed to the purchaser. Multiply the clear annual rent by 100, and divide by the sum expended.

$$\begin{array}{r} \text{£ } 50 \text{ Rent} \\ 100 \\ \hline \text{Expended £ } 1000) 5000 \\ \hline 5 \text{ p. c. interest} \\ \hline \end{array}$$

Below are forms of valuations separating land as indestructible from buildings as perishable and illustrating methods of finding ground rent.

Expenditure to erect house at 8 <i>d.</i> per	
cubic foot	£1500
Rate of interest on owner's outlay	7 p. c.

Making building rent	£105
--------------------------------	------

Deducting £105 from an assumed clear	
total rent of £130, leaves for ground	
rent	£25
This at 4 p. c. is worth	25 y. p.

Value of ground rent	£625
--------------------------------	------

Supposing the house will yield for say	
80 years (almost freehold y. p.) the	
net rent	£105
This annuity at 6 p. c. is worth	16 y. p.

Value of house	£1680
Add for ground	625

Value of land and house	£2305
-----------------------------------	-------

The present value of old materials and fixtures if sold at end of term, discounting at 5 p. c., may be added, or sometimes considered as counterpoising suspension of rent.

Varying the above method: to ascertain ground rent; subtract from rack rent annual building interest on expenditure, with allowance for repairs, taxes, casualties, &c. Gross rent £155; 7 p. c. on £1500 for building, £105, plus outgoings £25, equalling £130 house rent; which deducted from £155 leaves £25 ground rent; or about $\frac{1}{4}$ full rent.

Frontage of 30 feet at 8s. a foot	.	£12
At 4 p. c.	.	25 y. p.
		<hr/>
Value of land	:	£300
		<hr/>
House containing 24,000 cubic feet at		
9d. cost	.	£900
Interest	.	7 p. c.
		<hr/>
Net building rent	.	£63
At 6 p. c.	.	16 y. p.
		<hr/>
Value of house	.	£1008
Add for land	.	300
		<hr/>
Total value	.	£1308
		<hr/>

The above is about $17\frac{1}{2}$ y. p. of the clear rent of £75; that is, between 5 and 6 p. c. for the freehold; which at 5 p. c. is worth £1500, and at 6 p. c. about £1200; the value of property as a whole often materially differing in figures and in fact from the sum of the parts, and no regular ratio being practically observed. Taking rental on cost of ground and house at 10 p. c., and capitalising at 5 p. c. or 20 y. p. gives double outlay. Coincidents of 20 y. p. at 5 p. c. for total rent are two-fifths for ground at 4 p. c. or 25 y. p., and three-fifths for house at 6 p. c. or $16\frac{2}{3}$ y. p.

LEASES FOR CERTAIN TERMS.

To find the sum to be paid for a lease. Multiply the clear annual rent by the years purchase according to the desired rate of interest.

£50 Rent
13 y. p. at 7 p. c. for 36 years
<hr/>
£650 Value
<hr/>

The present value of leasehold ground rents and rent charges, which are often sold separately from leases, is similarly calculated.

Valuation of a lease for 36 years at £50 clear annual rent, out of which the tenant has to pay an annuity of £20 for 18 years, at 7 p. c.

£50 Rent	
13 y. p. for 36 years at 7 p. c.	
<hr/>	
650	£20 Annuity
200 Deduction	10 y. p. for 18 years at 7 p. c.
<hr/>	
£450 Value	£200
<hr/>	

To find the clear annual rent. Divide the sum expended by the years purchase opposite the term under the desired rate of interest.

For 36 years at 7 p. c., y. p. 13) £650 Sum expended

£50 Rent

To find the number of years purchase. Divide the sum expended by the clear annual rent.

Rent £50) £650 Sum expended

13 y. p.

The term and rate of interest do not affect the above rule.

To find the rate of interest allowed to the purchaser. Ascertain in the table opposite the term if one of the values in years purchase corresponds nearly with the result obtained by the preceding rule, and the interest marked above will be the approximate rate.

Thus, in the last example, 13 being found to be the years purchase for a lease of the clear annual rent of £50 for

which £650 have been given, in the table opposite the term of 36 years is found the value, 13.04, which is in the 7 p. c. column. The value will often be found between two per centage columns, when the nearer may be taken. Supposing 12 were the years purchase, this, looking opposite the term of 36 years, gives the rate of interest between 7 and 8 p. c., the nearer being 8 p. c.

The three preceding rules, for finding annual rent, years purchase and interest, apply to the examples given under following headings and are therefore not repeated.

REVERSIONS OF FREEHOLDS AND LEASES AFTER CERTAIN TERMS.

To find the sum to be paid for the reversion of a lease or freehold after a certain term. Deduct the value, either in money or years purchase, of the short lease from that of the long one or the freehold, and the difference will be the price or the years purchase of the reversion.

Valuation of a reversion after 35 years of a freehold of £200 clear annual rent, at 6 p. c.

£200 Rent	£200 Rent
$14\frac{1}{2}$ { Y. p. for 35 years, at 6 p. c.	$16\frac{3}{4}$ { Y. p. for freehold, at 6 p. c.
<hr/> £2900 Value of lease	<hr/> 3350 Value of freehold
<hr/>	<hr/> 2900 Deduction for lease
	<hr/> £450 Value of reversion

It may be checked thus by the alternate method.

Purchase of free-	}	$16\frac{3}{4}$ y. p.	£200 Rent
hold at 6 p. c.			
" leasehold "	$14\frac{1}{2}$	"	$2\frac{1}{4}$ y. p.
Value	$2\frac{1}{4}$	"	£450 Value of reversion

Valuation of a lease for 60 years at £100 clear annual rent, but underlet for 36 years at £80 rent, the whole term of 60 years being for sale, and 7 p. c. being the interest desired.

£20 Difference in rent for 36 years 13 y. p. at 7 p. c.	£100 Full rent for 60 years 14 y. p. at 7 p. c.
£260 Value of underlease	1400
	260 Deduction
	£1140 Value

Valuation of a reversion of a lease for 42 years at £150 clear annual rent, after 24 years at 8 p. c.

42 years at 8 p. c., 12 y. p.	£150 Rent
24 „ „ 10½ „	1½ y. p.
Difference 1½	£225 Value of reversion

RENEWALS OF LEASES FOR CERTAIN TERMS.

It is covenanted in some leases, or it may be the established custom, without absolute right on the part of tenants, that renewals shall be granted after certain times at original, often merely nominal, rents, upon payment of what are called *finer*, determined by lessors or otherwise, to meet presumed increase in value, lessees undertaking repairs, insurance, &c. To facilitate calculation of fines, or sums to be paid in advance for improved or additional yearly rental, on condition of continuing to hold at former rental, or at less than annual value, certain tables have been constructed, usually for renewing any number of years expired in leases originally granted for 10, 20, 21 and 40 years respectively.

Generally, ecclesiastical bodies, eleemosynary corpora-

tions, colleges, &c., are restrained by disabling statutes, passed for the benefit of successors, from granting leases for more than 21 years or 3 lives, reserving the old rent and levying a fine; but under certain restrictions, houses in towns are let for 40 years; and special statutes allow building leases for 99 years.

The fines taken by ecclesiastical lessors at septennial renewals of leases for 21 years range from about 1 to 3 years annual value, as ascertained by lessor's surveyor; and those at renewals for lives are calculated variously under the 5, 6 and 8 p. c. tables. With some exceptions, when the old lease is for 40, 30 or 21 years, no new lease can be granted till the expiration respectively of 14, 10 or 7 years, when the property is said to be in course of renewal. The usual term renewed is 7 years for land and 14 for houses. No renewal of leases for years can be granted on lives; and no renewal of leases for two or more lives can be granted till one life is extinct; and leases cannot be extended to above three lives.

Sundry municipal corporations grant leases up to 31 years, and for building to 75 years. Universities and colleges grant leases up to 21 years, and building and repairing leases for 99 years. Incumbents of ecclesiastical benefices lease land, &c., under certain circumstances, for 14 and 20 years. Crown land is leased up to 31 years or 3 lives; and building and repairing leases are granted up to 50 years or 3 lives, also building leases to 99 years. Corporations are sometimes enabled to dispose of the fee simple of leaseholds, paying due regard to tenants' claims for loss of renewal, &c.

Of course, some of these brief notes do not apply to renewals, respecting which also many exceptions and variations occur, besides, in certain cases, sundry peculiarities obviously unsatisfactory, impolitic and objectionable in several respects.

The interest of life and terminal owners frequently is

either to anticipate income by fines or to extract the utmost rack rent, even at the sacrifice of future value of property, as that of occupiers under them is to expend as little as possible in maintenance and improvements; while, on the other hand, old lessees are sometimes really oppressed by the exorbitant and unreasonable requisitions for repairs and alterations as the condition of renewal at rent fixed more or less capriciously by chance and changeable surveyors, all these systems damaging landlords as well as tenants. So that it has been recommended as expedient, especially regarding land, to encourage the voluntary or compulsory conversion of many leaseholds like copyholds (concerning which national welfare was consulted) into perpetuities, as the most simple and summary way of terminating existing inequitable complications; and Mr. Scratchley proposed forming societies to enable borrowers to purchase the freeholds of their leaseholds. Until some of such holdings, comprising sickening slums and dangerously dilapidated dens, are at least materially modified, tenants (uncertain, for instance, whether the superior interest on which their own depends is to continue) can commonly seldom be fairly expected to make extensive or permanent improvements if ultimately rewarded by fines or other exactments rising partly or wholly in proportion to the increase in value of the estate out of their own pockets.

In "Some Arguments against enlarging the Power of Bishops in Letting Leases" in Ireland, Swift speaks of the anticipation of rent by fines as a "trade" originating with popish bishops fearing ejection, and, though contrary to ancient canons, held on after the bishops became protestant, "some of their names being still remembered with infamy on account of enriching their families by such sacrilegious alienations." Lord Orrery says the great Dean "could never be induced to take fines for any of the chapter lands; he always chose to raise the rents, as the method less

oppressive to the present tenant, and most advantageous to all future tenants and landlords." In England, leasing by fines was in practice long before the Reformation.

According to Mr. Scratchley, the value of property in England and Wales held under church leases alone is £35,000,000, putting the church interest at £14,000,000 and that of the lessees at £21,000,000.

The Universities of Oxford and Cambridge own landed estates, exclusive of copyholds of inheritance, comprising 319,718 acres, distributed throughout England and Wales.

To find the value of a fine for renewing a term certain. Insertion of the tables previously mentioned showing the years purchase at sight would occupy too much space and is rendered practically unnecessary (except respecting special rates of interest appended to tables of 10, 20 and 21 years for renewing at 1 y. p. of the rent every 4 or 7 years) by the general rule, of deducting the value of the unexpired portion of a lease from the whole of the proposed term, or entire existing from entire extended interest, which rule is equally applicable to leases for years and for lives.

Thus, ascertain from the table for leases for certain terms, under the intended rate of interest, the value of a lease for the whole period during which the new one is to continue (that is, including both the unexpired portion of the old lease and the additional time proposed to be added), and also find, under the same rate of interest, the value of a lease for the unexpired portion of the original term, and the difference between the two will be the years purchase for renewal.

Valuation of a renewal of 45 years expired in a lease for 60 years at 8 p. c., the clear improved annual rent, after deducting quit or reserved rent and other charges, being £100. Or, put otherwise, valuation of a fine to be paid for adding 45 years to a lease of which (60 less 45) 15 years expired, allowing the tenant 8 p. c. interest.

60 years full term	12½ y. p. at 8 p. c.	£100 Rent
15 „ unexpired „	8½ „ „	4 y.p.
	<u>4 „ „</u>	<u>£400 Fine</u>

It may be checked thus by the alternate method.

Rent .	£100	Rent .	£100
Full term	12½ y. p.	Unexpired term	8½ y. p.
	<u>1250</u>		<u>£850</u>
Deduction	850		
	<u>£400 Fine</u>		

LEASES FOR LIVES.

The degree of probability, average chance or reasonable expectation of living a number of years has been calculated from registers in different places; and, in this country, the results widest known are embodied in what are called the Northampton, Carlisle and Government tables.

Those first mentioned were formed by Dr. Price from the register of deaths at Northampton from 1740 to 1780, but give too great a mortality to young and middle ages.

Dr. Heysham's observations on decease at Carlisle in the years 1779 to 1787, tabulated by Mr. Milne, represent high vital value, but probably fair expectation of life in the middle classes.

The tables, printed 1829, and based by Mr. Finlaison on registers of the nominees in tontines and others on whose lives annuities had been granted by government for above a century, are more generally reliable than any before published. They separate males and females, the latter living longer; and the mean between the two approximates to the Carlisle figures.

It may be added that the valuable life tables, at 3, 4 and 5 p. c. appended to the twelfth annual report of the Registrar-General in England, and calculated by Mr. Farr on deaths during seven years ending 1844, are used in the transfer of ecclesiastical property.

Plainly, tables indicating rapid mortality give the worth of annuities depending on lives smaller than tables which presume people live longer. The Northampton table is commonly adopted by assurance offices on purchasing the surrender of an annuity from its allowing more profit, on account of expectation of life being taken generally too low; although, conversely, a seller or a grantor prefers the Carlisle or the Government table, which approximates nearer to truth, giving higher average chance of life, and thus greater value or more years purchase under the same rate of interest. In life assurance, the shorter the likelihood of living of course the more premium is paid. As observed in the "English Cyclopædia";—"The security of the method for estimating the value of life annuities depends upon the presumption that the average mortality of the buyers is known. This average cannot be expected to hold good unless a large number of lives be taken. Therefore, the granting of a single annuity, or of a few annuities, as a commercial speculation, would deserve no better name than gambling, even though the price demanded should be as high as that given in any tables whatsoever. The liability to error, even in using the most simple table, is very great; and most cases which arise in practice contain some circumstances peculiar to themselves, which have not and could not have been provided for in the general rules."

Although the policy may possibly be held void, by insuring a life, insecurity of an annuity held upon it is proportionately diminished; and it is common to sell a life *policy* with a life estate; the non-existence of the former *often indicating* the life is unhealthy or not a select one,

and can only be insured at a high premium. The value of a policy is ascertained by deducting, at the per centage desired, from the present worth of the amount due at death the present value of the yearly premiums, adding all expenses and discounting for usual delay in payment after death.

TABLES FOR PURCHASING LEASES OR OTHER ESTATES
HELD ON ONE LIFE.

AGE.	NORTHAMPTON.			CARLISLE.			Gov. M.	Gov. F.
	4 p. c.	5 p. c.	6 p. c.	4 p. c.	5 p. c.	6 p. c.	4 p. c.	4 p. c.
1	13'5	11'6	10'1	16'6	14'0	12'1	19'1	19'8
5	17'2	14'8	13'0	19'6	16'6	14'3	19'3	20'0
10	17'5	15'1	13'3	19'6	16'7	14'4	18'8	19'7
15	16'8	14'6	12'9	19'0	16'2	14'1	18'0	19'1
20	16'0	14'0	12'4	18'4	15'8	13'8	17'3	18'6
25	15'4	13'6	12'1	17'6	15'3	13'5	16'9	18'1
30	14'8	13'1	11'7	16'9	14'7	13'0	16'4	17'5
35	14'0	12'5	11'2	16'0	14'1	12'6	15'7	16'9
40	13'2	11'8	10'7	15'1	13'4	12'0	14'9	16'2
45	12'3	11'1	10'1	14'1	12'6	11'4	13'8	15'3
50	11'3	10'3	9'4	12'9	11'7	10'6	12'4	14'2
55	10'2	9'4	8'7	11'3	10'3	9'5	11'0	12'8
60	9'0	8'4	7'8	9'7	8'9	8'3	9'7	11'3
65	7'8	7'3	6'8	8'3	7'8	7'3	8'2	9'6
70	6'4	6'0	5'7	6'7	6'3	6'0	6'8	7'9
75	5'0	4'7	4'5	5'2	5'0	4'8	5'4	6'3
80	3'6	3'5	3'4	4'2	4'0	3'9	3'8	4'9
85	2'5	2'5	2'4	3'1	3'0	2'9	2'3	3'8
90	1'8	1'7	1'7	2'4	2'3	2'3	1'3	2'1

Thus, the value of an annuity of £100 on a life of 35 at 4 p. c. interest is by the,—

Northampton Table	.	.	14 y. p. or £1400
Carlisle	"	.	16 " " 1600
Government	"	Males	15'7 " " 1570
"	"	Females	16'9 " " 1690

The following illustrations are based on the Northampton tables.

To find the sum to be paid for a lease during the life of a person. Multiply the clear annual rent by the years purchase according to the desired rate of interest.

Valuation of a lease at £50 clear annual rent during a life aged 20, at 5 p. c.

£50 Rent

14 y. p. at 20 years at 5 p. c.

£700 Value

The value of estates held on *two joint lives*, or on the *longest of two* or of *three lives*, is similarly calculated by referring for the years purchase to appropriate tables.

Valuation of a lease at £70 clear annual rent which is to determine on the death of either of two persons, or to depend on joint continuance of two lives, whose ages are 40 and 60, at 5 p. c.

£70 Rent

7 y. p. at ages of 40 and 60 at 5 p. c.

£490 Value

Valuation of a lease at £50 clear annual rent to continue during the longer, or the existence of either, of two lives whose ages are 20 and 40, at 6 p. c.

£50 Rent

14 y. p. at ages of 20 and 40 at 6 p. c.

£700 Value

Valuation of a lease at £90 clear annual rent to continue during the longest, or the existence of any, of three lives whose ages are 10, 30 and 50, at 4 p. c.

£90 Rent

20 y. p. at ages of 10, 30 and 50 at 4 p. c.

£1800 Value

To ascertain comparative value of leasehold and lifehold estate: find from the table of leaseholds, under the proposed rate of interest, the years purchase the property is worth, and then in the table of life, seek, under the same rate of interest, first the nearest corresponding years purchase, and next, opposite to it, the age or ages of the life or lives.

Lease of 25 years at 5 p. c. is worth 14 y. p.

For life, 14 y. p. under 5 p. c. gives age of 20.

REVERSIONS OF FREEHOLDS AND LEASES

AFTER A LIFE OR LIVES.

Of course the term of a lease in reversion must not be less than the period to which the contingent life or lives may possibly or probably extend; and when tables are not at hand, expectation of living, according to Northampton results, is roughly approximated, on De Moivre's hypothesis, by subtracting the age from 86 and halving the difference.

To find the sum to be paid for the reversion of a lease or freehold after the life of a person. Deduct the value, either in money or years purchase, of the life from the value of the lease or freehold, and the difference will be the price or the years purchase of the reversion.

Valuation of the reversion of a lease for 60 years at £80 clear annual rent on the death of a person aged 45, at 5 p. c.

Value of lease of

60 years at 5 p. c. 19 y. p. £80 Rent

Value of life at 45 „ 11 8 y. p.

Value 8 £640 Value of reversion

It may be checked thus by the alternate method

Rent £80	Rent £80
y. p. of lease 19	y. p. of life 11
1520	£880
Deduction 880	

Value of reversion £640

The value of reversions after *two joint lives* or after the *longest of two* or of *three lives*, is similarly calculated by referring for the years purchase to appropriate tables.

Valuation of the reversion of a lease for 85 years at £100 clear annual rent on the death of either of two persons whose ages are 40 and 60, at 6 p. c.

Value of 85 years lease at 6 p. c. 16½ y. p.

Value of joint continuance

of lives of 40 and 60 „ 6½ „

£100 Rent	10 „
10 y. p.	

£1000 Value of reversion

Valuation of the reversion of a lease for 60 years at £80 clear annual rent after the longer of two lives whose ages are 20 and 40, at 6 p. c.

Value of 60 years lease at 6 p. c. 16¼ y. p.

Value of longer of lives of 20 and 40 „ 14 „

£80 Rent	2¼ „
2¼ y. p.	

£180 Value of reversion

Valuation of the reversion of a freehold at £50 clear annual rent after the longest of three lives whose ages are 10, 50 and 70, at 5 p. c.

Value of freehold at 5 p. c. 20 y. p.

Value of longest of lives of 10, 50 and 70 " 16 "

£50 Rent 4 "

4 y. p.

£200 Value of reversion

RENEWALS OF LEASES FOR LIVES.

These occur under circumstances indicated where treating renewals for certain terms. If, as in the common case of an estate granted for three lives, one of them has dropped, and the tenant desires to add a new life, naturally the best available, in order to prolong his interest, the landlord demands a sum proportionate to the improved value and to the age of the person proposed to be put in, the annual rent continuing the same: or it may be proposed to renew two lives. The fine is ascertained by a table giving the years purchase for renewing under the intended rate of interest; or by the general rule, before explained, of deducting entire existing from entire extended interest, or the worth of the unexpired portion of the lease from that of all the proposed period.

To find the sum to be paid for renewing with one life a lease originally held on three lives. Multiply the clear improved annual rent by the years purchase according to the desired rate of interest.

Valuation of the sum to be given for putting in one new life aged 10 in a lease at £100 clear improved annual rent held on three lives of which one has dropped, the lives in possession being 40 and 70, at 5 p. c.

£100 Rent

4 y. p. at ages of 10, 40 and 70 at 5 p. c:

£400 Value

Or, by the general rule, deducting from the value, at 5 p. c., of the longest of three lives of 10, 40 and 70, equalling $16\frac{1}{2}$ y. p. (obtained, not from the table above named for renewing lives, but from that exemplified p. 153 for purchasing leases on the longest of three lives), the value of the longest of two lives of 40 and 70, equalling $12\frac{1}{2}$ y. p., leaving 4 y. p., which multiplied by £100 gives the worth £400.

In the case of two lives having dropped before renewing the lease, the sum to be given for putting in two new lives is found by the general rule. Ascertain the value of an estate held on all three lives, the one in possession and the two to be put in, and from this subtract the value of an estate on a life of the same age as the one in possession, and the difference will be the price required.

Valuation of the sum to be given for putting in two new lives aged 10 and 20 in a lease at £200 clear annual rent, the life remaining being 60, at 5 p. c.

Value of lease on longest life of 10, 20 and 60

at 5 p. c. $17\frac{1}{4}$ y. p.

Value of life of 60 at 5 p. c. $8\frac{1}{2}$ „

£200 Rent

$8\frac{3}{4}$ y. p.

Value $8\frac{3}{4}$ „

£1750 Value

PRICES AND DETAILS FOR VALUATIONS.

VALUE OF LAND.

Agricultural land rental at per acre, as ascertained by the "Times" Commissioner in 1850-1, is given below. The east and south coast counties is the corn side of the country; in the midland and western counties the husbandry is more a mixture of corn, stock and dairy farming. Labourers' wages varied from 7s. to 14s. a week; the average rate being, in the first list 10s. 1d., and in the second 9s. 1d.

Midland and Western
Counties.

	s. d.
Cumberland .	25 0
Lancashire .	42 0
West Riding .	40 0
Cheshire .	30 0
Derby .	26 0
Nottingham .	32 0
Leicester .	35 0
Stafford .	30 0
Warwick .	32 0
Northampton .	30 0
Bucks .	26 0
Oxford .	30 0
Gloucester .	28 0
North Wilts .	35 0
Devon .	30 0

Average 31 4

East and South Coast
Countries.

	s. d.
Northumberland .	20 0
Durham .	17 0
North Riding .	29 0
East Riding .	22 6
Lincoln .	30 0
Norfolk .	25 6
Suffolk .	24 0
Huntingdon .	26 6
Cambridge .	28 0
Beds .	25 0
Hertford .	22 6
Essex .	26 0
Surrey .	18 6
Sussex .	19 0
Berks .	30 0
Hants .	25 0
South Wilts .	17 6
Dorset .	20 0

Average 23 8.

These values are now much higher; and London long ago remarked that,—“Rent, like price of every kind, depends more on the quantity of land in the market, and the number of tenants in want of farms, than on the real value of land.” Capitalization price is commonly from about 28 years purchase in less desirable up to 33 in favourite districts, seldom falling to 25 but sometimes rising to 40 where competition is roused. It is assumed the quantities are one or two hundred acres; lots of a few acres usually realising greater proportionate sums, while remote or inferior land is accordingly cheap.

Other things, such as character of soil and roads being the same, small and large market towns and moderate cities enhance worth of adjacent agricultural land, respectively about 25, 50 and 100 p. c. Convenient railway facilities, as for exporting produce, importing manure, &c., augment selling price at least 5 and generally 10 p. c.: in many parts, rental is thus raised 2*s.* 6*d.* to 5*s.* per acre, and fee simple 2 to 5 y. p.; while residential estates are often increased in value 20 to 50 p. c.

According to the “Architectural Dictionary”:—“It is allowed as a general rule that a farmer’s net profit is, acre for acre, the same as his rent. If he is a tenant from year to year, as he generally is, one or at the most two years profits are paid on compulsory sale, depending however on the time of year at which the land is taken; but where there is a lease of any length, the tenant farmer’s profit so taken is an absurdity.” But McCulloch observes that, the profits of farmers in England and Wales are supposed, under the property tax act, which although often most unjust in its application to individuals may not at an average be very wide of the mark, to amount to about half the rent, which latter may be estimated at about one-fourth the value of total produce, the capital employed being *about* £6 per acre. Mr. E. J. Smith puts the rent of *agricultural land at one-half the value of produce in certain*

cases of grass land to one-ninth the value of produce in arable clay lands where cost of cultivation is very large; and Mr. R. Baker says that expense of cultivating various soils differs so greatly in proportion to gross produce that the notion which formerly prevailed that a fourth or fifth of the money value of produce will represent rent is fallacious in the highest degree. The method given by Mr. Oakley for obtaining fair rent payable to the landowner, is by deducting from average gross produce in money the tithe charge, taxes and rates, cost of cultivation and interest on capital required. The last may be altogether about 10 or 15 to 20 p. c.

In Johnson's "Farmer's Encyclopædia" there is a suggestive detailed appraisement of the tenant's property on a farm of about 300 acres, made according to the terms of the lease. Bayldon's "Art of Valuing Rents and Tillages, and Claims of Tenants upon quitting Farms," from the improvements in successive editions, is probably still the best work of its kind.

Lord Coke says that in his time a third part of England consisted of copyhold land; Mr. John Bright asserts that now about half the land in England is possessed by fewer than 150 men; and by a government return in 1874, about half the land in Scotland belongs to 75 proprietors. McCulloch gives the increasing rental of land in England and Wales, excluding that not assessed under the property tax acts, in 1815, £34,330,462, in 1843, £40,167,088, rising in 1866 to above £60,000,000; adding that the largest portion of landed property in England is portioned into estates under £1000 a year; and that the average size of English farms is about 150 or 160 acres. The same authority observes that, although attempts to get agricultural statistics for the United Kingdom from various causes have always been unsuccessful, one of the best estimates, though many years old, gives the acreage of land cultivated at 48,779,613, and uncultivated at 28,227,435, the total

being 77,007,048 acres; but the proportion of the former has since been materially augmented. Touching this subject, Mr. G. A. Dean considers:—"It does not appear to be a matter of such absolute impossibility that every acre should support its man;" and thus, allowing for what is incapable of use or improvement, materially modifying our existing economy if many wild wastes were transformed into fertile fields.

Building land in the metropolitan district has of late years undergone startling revolutions in value; and, rising from perhaps about 6*d.* a foot, it is altogether too exceptional, partial and dependent on peculiar local or personal circumstances to admit of such explicit generalization here as would be really reliable and worth publication. Land in the City practically never deteriorates in worth. It is thirty times the price two centuries ago; in some positions it has increased fourfold and more within ten years; and rates between £200,000 and £500,000 an acre are common. Many years back, the triangular isolated ground between St. Paul's and Cannon Street was valued at £60,000, or £250,000 per acre. A piece of land in the Poultry sold for £20 per superficial foot; even twice this rate has been obtained; and £30 is not a rare figure; which gives a ground rent of £1 a foot at 30 years purchase. In Cornhill, the rent of some land involves capitalisation at above £1,000,000; and opposite the Mansion House, in Queen Victoria Street at more than £1,250,000 an acre; but a site was purchased in Lombard Street at the rate of over £2,000,000 an acre. It will now be moderate to value land in the best part of the cities of London and Westminster at respectively £1,000,000 and £100,000 per acre. In the latter, in Victoria Street, £3 per foot frontage is an old ground rent of a very shallow site. Over the water, the ground rents of mercantile buildings in New Southwark Street fetched from 26 to nearly 33 years purchase. River frontage a little below

bridge, suitable for wharfs, frequently lets from about £2 10s. per lineal foot. At 5 miles from the City building land is often £1000, and at 10 miles £500 an acre.

CREATION OF GROUND RENT.

Buildings may be so superlatively situated, as in the City, that it would be absurd to value them on the basis of cost, or they may be so disadvantageously located, either originally or through subsequent changes, as not to realise anything approaching usual interest on expenditure; as illustrated by supposing houses in Belgrave Square transposed to Wellclose Square, or mansions in the lake country to the black country.

Thus, as a rule, the worth of houses varies with that of the ground on which they stand, this being determined by considerations of accessibility, business, fashion, salubrity, and by other matters.

Therefore, land should generally be valued separately from buildings (especially where the latter are old); as one part ground rent to five or six parts brick and mortar rent; or, in parts of the City, one-half gross for ground rent; and sites being, in some cases, two-thirds or three-fourths the value of the property with structures; or, as has been seen, even more expensive.

At the outset, when perhaps pasture or market garden land, an estate affords only a modest return, but no sooner does prospective fitness for building gradually dawn than speculation is rife touching the elasticity of its value.

“The richest crop for any field,
Is a crop of bricks for it to yield.
The richest crop that it can grow,
Is a crop of houses in a row.”

In some parts such land is sold or leased for ever subject to a chief or quit rent; but owners often cannot sell, or

they may prefer creating so secure an income as that from ground rents, or to wait for their high capitalisation price. Thus alternatively compelled to rent land, speculators build against and not for time, constructing houses to last only about the term of the lease, when the freeholder gets them, such as they may be, for nothing, and so apportioning ground and house rents as to secure the profit desired. The rack rent, Mr. Ashpitel states, "is calculated at such a rate that the builder may make a fair interest on his outlay, and also lay by such an annual sum as will, with its accumulations, amount to the value of the houses, which pass from him at the expiration of the lease, and so recoup him for the loss of them. It will thus be seen that however anomalous the course may seem, it entails no injustice on the builder. It has this effect however on the tenant at the rack rent, that he has not only to pay the builder the interest for his outlay, time and trouble, but also an additional annual sum as a species of insurance or sinking fund, because the houses must pass from him, the latter, at a given time. It is for this reason tenants who can afford it pay down a premium for their leases, in which case the residue of the rent may be considered as an improved ground rent." Another writer observes that;—"The amount of ground rent which a finished house will bear seldom exceeds one-sixth or one-seventh of the rack rental unless in situations where rents and prices are very high. A larger proportion indeed is an impediment to a sale or a mortgage of the building, and most builders would not pay more than one-eighth or one-tenth for the ground. Speculators of considerable capital, renting a large quantity of land to be covered by degrees, or for the purpose of underletting in detail, will of course pay only the wholesale price, with covenants in the lease of a not very restrictive nature. Besides which, they may fairly require two years *peppercorn* rent instead of the usual twelve months, or else *a graduated rental*." In the metropolitan district, between

about a fifth and eighth of rack rent is a fair and usual proportion for houses of moderate pretension.

Improved ground rents may be developed by hiring land at low aggregate or reduced wholesale rent, and disposing of it (or houses when erected) as high separate or advanced retail rents; as where lots leased at £300 are underleased at £400, thus creating an income of £100. Or parts of an estate may be rated heavily in order to lighten or altogether remove charges on other parts of equal or different value; as where the £100 *freehold* ground rent of a piece of land is charged by the lessee on structures covering half the plot, and he sublets the other half at £100, thus creating for himself a *leasehold* ground rent of that amount. Speculators taking quantities of land, and stipulating for the landowner to grant distinct leases to their nominees continually retain portions at trifling rents without responsibility for the remainder. But builders should be precluded assessing more or less than a certain range of ground in relation to rack rent, especially as where land is let at a peppercorn the freeholder risks from non-claim ultimate lapse of his rights.

Plainly, freehold, or original, are much more valuable than leasehold, or mis-called "improved," ground rents reverting to landowners, with risk of forfeiture from breach of covenants in two or more leases, respective lessees being often at the mercy of each other. Where, too, ground rent is assessed jointly on several houses, the owner can commonly enter all for forfeiture, or distrain in any one for arrears, although the proportion of that one is paid. Hence the advantage of several leases direct from the freeholder, instead of one lease of several houses.

In the section on *Conditions of Building Leases* is an agreement with stipulations for advances from the freeholder to the builder. Capitalists holding estates which they themselves do not propose to cover, or which they *bought to lease*, will often lend money at moderate interest.

it being frequently worth their while to do so at a nominal rate, in order to create rent. Care must be taken that advances are considerably within the value of work executed, as the builder may fail to obtain credit or in various ways and leave houses unfinished. Purchasing existing ground rents differs from their creation in being second-hand, the first profit being gone. Points to be carefully considered in selecting land are: the class of houses best suited to the locality and most likely to prove attractive, as the row or terrace, semi-detached or detached, cottages, villas, mansions, shops, &c.; suitable extent of garden; fair ground and building rent; and allowance for time in realization, especially where rent or interest is payable.

And now for the other side of the picture. The leasehold building system has been designated a "peculiarly English abomination"; and it is only right although perhaps scarcely needful, even in a merely suggestive way, to indicate here some of its objectionable developments. Throughout the continent, people do not build on another man's land with the prospect of loss to their children in confiscation to the stranger. In England, says Hassenfratz, writing in 1804,—"*Il est rare qu'on achète le terrain où l'on veut bâtir; mais on l'engage pour 20, 30, 40 ans, et on paye une rente; cet article seul est une grande économie de capitaux; et quoque au bout du terme prescrit les édifices reviennent au propriétaire du terrain, l'art de bâtir pour un temps déterminé a été si perfectionné qu'il est rare que le propriétaire en retire le moindre avantage.*" Since then, this branch of building has been surprisingly developed, with many honourable exceptions, mainly in its worst features, and inoculating grants with monstrously anomalous provisions for preserving or rather renewing the ricketty rubbish; the complex machinery of covenants and conditions in a *common lease* for securing a ground rent of say £3 being *something wonderful* in its wordy way. The objection is,

not to speculative building but to speculative swindling. Doubtless, capitalists are free to buy land cheaply in large quantities, and then lease small lots on as extravagant and preposterous terms as it is probable that prospective purchasers of houses may foolishly enable sharp speculators to promise; but the question is how far this can be carried without necessitating bad building, and rendering the interests of the freeholders and of the builders, or lessees, perfectly antagonistic, to the serious injury of both parties and in so many ways of the public at large; while practically fostering and encouraging a class of men (artfully abetted sometimes by unscrupulous third parties) often not even scamping or "jerry" builders at all, but chandlers, quondam footmen and so forth, whose stock in trade is abominably built, half-finished and shockingly ready-made, heavily mortgaged houses, and whose natural diathesis is difficulty and debt, to eagerly seize every discreditable scheme to obtain materials and labour, while living on the "draws"; to speculate for a comparatively large sum, with no capital, character, or anything in the world to lose; and on hopeless failure, to abandon desolate carcass ruins for the happy haven of the bankruptcy court. "In an account of a bankrupt's final examination ('Builder,' no. 710), it appears the petitioning creditor, who was the mortgagee of nearly all the bankrupt's property, had agreed to lease some land to the bankrupt, had induced him to spend some £4000 of his own money on it, to get largely into debt in covering the land, and had proposed to the bankrupt to assign the whole of his property to him, and then to go through the bankruptcy court, promising him, after he should have obtained his certificate, to give him £1000 to begin again with." Much as the degenerate ancient Romans ran up execrable "insulæ" to wring the utmost profit from the poor, so now building skill is daily more and more prostituted, specially as obtrusively conspicuous in the depressing and detestable eastern London suburbs, in trying to deceive and

make houses *seem* other than they are, healthy, pleasing and substantial; while really boxes, or inverted receivers, engendering deadly disease, and prim ugliness itself in impudent travesty of genuine beauty, with frail roofs, trembling floors and tottering walls, contemptible concretions, excluding neither summer heats nor winter storms, tramped up all alike by the gross and spurious as counterfeit coin for exchange with the unwary. And until shackling feudal restrictions and endless difficulties touching title, which render land so gigantic a monopoly, are modified or abolished, until some leasehold enfranchisement scheme is initiated, or until the unfortunate public refuse to "live" in such hateful "homes" or repulsive "refuges" as those which, at the height of civilization, are now endured, will certain landlords continue to pocket profits rising proportionately with the reprehensiveness of the means and the wretchedness of the results.

VALUE OF HOUSES.

The following particulars of approximate cost of building will be variously useful.

	a.	a.	
Houses first class	10 to 14		} Per cubic foot.
„ second „ ordinary construction, medium decoration.	7 „ 9		
„ third „ tolerable speculative building	5 „ 7		
Attached or additional servants' offices and stabling	4 „ 7		
Labourers' cottages, substantial.	4 „ 5		
Slightest speculative building houses.	3¼ „ 3½		
Schools, lecture halls, churches and chapels, plain	6 „ 7		
City offices and warerooms, stone fronts	8 „ 10		

Workhouses from 6d., rising successively for infirmaries, hospitals, asylums and prisons.

Country buildings amount to about 5 to 20 p. c. less than the higher series of above prices, according to adoption of local materials, expense of labour, cartage, &c.

Dwellings are sometimes estimated by each room, as £25 to £200 upwards; or by the square of 100 superficial feet of floor, as £25 to £80 upwards.

Generally: 5 times cost of brickwork is very high to complete houses; 4 times usually suffices; and 3 times for speculative builders' houses. Twice cost of carcass will complete speculative building but not well-finished houses.

Churches are estimated, from £5 (brick facing with stone dressings) to £7 or more (rubble facing with finer stone dressings) a sitting, exclusive of tower and spire, £700, £1400, upwards. Schools range between £5 and £10 a scholar. Stabling with appurtenances is from about £75 a stall. Workhouses cost up to £50 an inmate; hospitals from £50 a bed; but often, with lunatic asylums, from double that sum; prisons rising from £150 or more a cell.

Taken per inmate the following buildings cost:—West London Workhouse, Holloway, £48; St Pancras Infirmary, Highgate, £68; Chorlton Union Hospital under £50, and, taking one pavilion, St. Thomas's Hospital £250; Devon Pauper Lunatic Asylum £115 and Hanwell Asylum £162; Pentonville Prison also £162.

At per foot cube, the expense of erection was:—Houses of Parliament 2s. 6d.; British Museum 1s. 6d.; Foreign Office 1s. 0¾d.; Royal Exchange 11d.; Colonial Chambers, Fenchurch Street, 10d.; St. Thomas's Hospital 9d.; Manchester Assize Courts 9½d.; Birmingham Exchange and Offices 6d.

The natural "life" or duration of houses, as now commonly built, may be roughly estimated at about a century, when either reconstruction or modification becomes necessary or desirable. Domestic habitations between about the times

of Charles II. and Queen Anne are often substantially good for two or three centuries from erection. According to computations in the "Builder," dwelling houses costing upwards of 1000 millions have been built in England and Wales since 1801; between 1861 and 1871 alone, more than 220 millions having been thus expended. Five (by 1871 census 5.33) being known to be the average number of persons residing in an ordinary dwelling, taking the medium outlay on each at £250, gives £50 as housing cost per head.

Houses in busy cities or towns can be erected and sold at considerable profit, but so various as hardly to admit here of useful classification. Dwellings in terraces, semi-detached and detached, commonly rise, in worth respectively, each above the other class 1 to 2 years purchase. In like manner, the relative value of dwellings generally is often proportionate to the position in society of the occupants, as affecting both preservation of premises and security of rent. Shops are so far desirable to landlords that tenants realise rent or livelihood thereon, and have comparatively little liberty of removal, value being frequently 1 or 2 years purchase higher than if the property were privately occupied. Offices present analogous advantages to investors, and in London a high per centage is obtained; near the Bank, for instance, choice rooms on the ground floor letting for 10s. or more a superficial foot and on the first floor 7s. or 8s.; and, at various central points, suites of half a dozen rooms for £1000 per annum. Rent of eligible dwellings in desirable metropolitan districts has advanced commonly 20 p. c. upwards within about ten years; and while the consecutive growth of buildings has lately been checked (7,687 built in 1873 against 11,179 in 1872), population has increased, doubling in 40 years, and materials and labour have risen in value. Furnished houses *often let for twice rental unfurnished*. Stabling lets from *about* £8 or £10 a stall, including other requisite accom-

modation. Rental of warehouses depends on quantity and weight of goods they will contain, allowing for gangway and broken stowage, corn overspreading the floor: or cost of building may be taken at 6 or 7 p. c., plus landlord's outgoings, for brick and mortar rental and adding ground rent. Gwilt says that;—"Goods warehoused are paid for to the warehouseman usually at a weekly or monthly rent; and it is commonly considered that the profit he should make ought to be one-half of the rent he pays to the landlord, so that, in fact, two-thirds of the actual rent realised goes to the proprietor, and the other third to the warehouseman or lessee." Superficial area, deducting lost space (say $\frac{1}{5}$), may be taken with safe loading height (say 8 or 10 feet), and tonnage reckoned at so many (say 50) cubic feet per ton, at so much (say 4*d.*) a ton per week, multiplied by 52, producing annual rent, and allowing for empties (say $\frac{1}{4}$) and taxation, &c., with expenses of conducting business, leaving clear profit; but the last expenses may sometimes be balanced by landing charges.

Residences in country districts far from cities can usually be bought for much less than building cost. Selling value often depends on: distance from London, towns, railways, &c.; attractiveness of country as regards salubrity, scenery, society and sporting; substantiality, tenantable condition, arrangement and appearance; and thus, if houses are of medium age or about thirty years, varies from one-half to three-fourths or more of sums spent. Rental is similarly affected; 5 p. c. upwards may sometimes be deducted for houses erected forty years, and so on: that of a large mansion should include appropriate acreage of pleasure ground, remaining land being valued as agricultural, and timber above a certain diameter separately.

As to comparative worth generally, compare *Relative Value of Property*.

FORMS OF VALUATION REPORTS.

The following reports may be modified to suit various circumstances. A sketch plan can be put on fly leaf or margin. Under *Compulsory Sale and Compensation* a form of claim is inserted. Giving modes of calculation is a very irregular and most unusual course, which should be declined by the surveyor.

Report of the value (or valuation) of the leasehold premises, No. 7, Speculation Row, Utopia, held for a term of sixty years from next Midsummer at a ground rent of £— per annum.

The accommodation comprises—The house is in good— fair— indifferent—bad—repair—apparently not worse built than similar property in the district. The rent stated by — is £— per annum, land tax is £— but the tenant pays all other taxes and rates. The covenants in the lease are as usual in such tenures.

After a personal survey and careful computation, I estimate (or value) this property at the sum of £— If the employer proposes to lend, add that, by reason of depreciative contingencies affecting such property, two-thirds only or £— can be safely advanced by way of mortgage.

A. B., surveyor.

Sir :

In accordance with your instructions, I have carefully surveyed the leasehold premises, &c., in order to report (or advise) as to : their present value ; their worth as a mortgage security ; whether they are sufficient surety for an advance upon mortgage of the sum of £— ; their rental value, &c.

The accommodation, &c., if desirable to give description.

I am of opinion (or beg to report) that the value of the premises is the sum of £— ; but that, from casualties, only two-thirds or £— should be lent upon mortgage ; that they are an adequate security for an advance upon mortgage of the sum of £— ; that £— is the fair rent upon surrendering the existing lease and granting a new one for — years, &c.

I am, &c., A. B., surveyor.

PRACTICAL EXAMPLES OF VALUATIONS.

The following hypothetical outline examples, with those under *Rules for Calculations*, illustrate the various modes of procedure.

VALUATIONS FOR GENERAL PURPOSES.

Ground Rents.

50 Acres of land at £1000 an acre . . .	£50,000
Expense of roads and sewers, with legal and surveying charges . . .	12,500
	<hr/>
	62,500
Interest during creation of ground rents for 7 years at 5 p. c.	21,875
	<hr/>
	84,375
Proportionate repayment by builders for roads and sewers	10,000
Cost of development . . .	£74,375
	<hr/>
12 of the 50 acres being roadway, leaving 38 acres for 836 plots, or 22 each acre, with a medium front- age of 20 feet, this at 7s. a foot gives an average rental of £7 a plot, and for all	5852
This ground rent, when secured, taken at 4 p. c. is worth	25 y. p.
	<hr/>
Selling value of ground rent	146,300
Deduct outlay	74,375
	<hr/>
Balance of profit less management . . .	£71,925
	<hr/>

In another form : assume 1000, 600 and 300 feet front-
age at respectively 7s. 6d., 5s. and 3s. a foot, giving total,
which at 5 p. c. is worth 20 y. p. as capitalised value of

rental, from which is subtracted cost of land, roads, sewers, fencing and suspension of rent (suppose for 6 years during letting at 5 p. c., being 5 y. p. of rent), leaving the sum for profit less management.

Or, divide the land into lots, price each as freehold (say by capitalising ground rent fixed relatively to proposed house rent), and deduct from total the outlay with interest on dormant capital for profit: or add expenditure and profit desired to sum paid.

Where an estate is to be partitioned, dividing total of purchase money, with laying out, redemption of land tax, legal, surveying and working expenses, by price per plot, say £50, gives number of lots.

Freehold ground rent secured of the annual value of £30 at 4 p. c. or 25 y. p.	£750
Freehold ground rent likely to be soon secured of £20 at 5 p. c. or 20 y. p. (as usual) but deducting 2 y. p. for delay in letting leaves 18 y. p.	360
Leasehold ground rents of £60 per annum for 90 years at 5 p. c. or 20 y. p.	1200
Total value	<u>£2310</u>

Land and Buildings.

Freehold land in cultivation, 40 acres at £4 an acre going annual value of	£160
Deductions—Commuted tithe £8	
Land Tax 6	
	<u>14</u>
	146
At 3½ p. c. worth say	28 y. p.
Value	<u>£4088</u>

2000 feet super of ground at 9d. gives rental	£75
£5000 cost of building at 7 p. c. gives rental	350
	<hr/>
	425
At 5 p. c.	20 y. p.
	<hr/>
Value	£8500
	<hr/>
3000 superficial yards of land at rent of 1s., £150 by 25 y. p.	£3750
Factory containing 30,000 cubic feet, cost 9d., taken now at 6d. a foot	750
Fencing, 300 rods at 10s. a rod	150
	<hr/>
Value	£4650
	<hr/>
Freehold ground rent of £10 × 25 y. p. at 4 p. c.	250
House to last 18 years, of building rent of £50 × 10 y. p. at 7 p. c.	500
	<hr/>
Value	£750
	<hr/>

Or the ground rent of £10 may be taken as a reversion, adding worth of house and land at £60 rental for the 18 years. Altering above valuation: suppose outlay is requisite to assure rent for the term, if the tenant spends £300, then £30 per annum may be allowed him, obtained by dividing £300 by 10 y. p. for 18 years at 7 p. c. the remaining £30, or other rental, being the landlord's return on the ground and dilapidated house; on this system, premises being made continuously costless and profitable to the freeholder.

Three houses at 6s. a week producing

per annum £46 16

Deductions

Parish rates assessed on £9 each,
allowing 20 p. c. commission £6 3

Land tax 18

Water rate, farmed . . . 1 16

Insurance 6

Collection, 5 p. c. . . . 2 7

Repairs about 10 p. c. . . 4 12

Casualties 10 p. c. . . . 4 14

20 16

26 0

Freehold to pay 9 p. c. worth

11 y. p.

Value £306

Annual Value £100

Deductions

Ground rent £10 0

Land tax 1 18

Insurance 1s. 6d. p. c. on £800 12

Ordinary repairs 10 p. c. 10 0

Collection 2½ p. c. . . . 2 10

Casualties 5 p. c. 5 0

30

Net rent 70

Lease 16 years at 6 p. c. worth . . . 10 y. p.

700

Present repairs or alterations 100

Value £600

Or if the last outlay is to be returned within the term with 6 p. c. interest, dividing £100 by 10 y. p. adds £10 to rent.

Present rent	£80
Deductions	
Ground rent	£8
Repairs, casualties and insurance 14	
	<u>22</u>
Net rent	58
First 3 years at 7 p. c.	2½ y. p.
	<u>£145</u>
Rent after 3 years	£100
Deductions	22
Net rent	78
Whole term 31 years at 7 p.c., 12½ y. p. less	
2½ y. p. for 3 years, leaves	10 y. p.
	<u>780</u>
Add	145
Value	<u>£925</u>
House, stabling and garden let at	£200
Deductions	
Insurance	£2
Risk	10
	<u>12</u>
Net rent	188
At 5 p. c. worth	20 y. p.
	<u>3160</u>

10 acres of adjoining land let at £4 an acre or £40, deducting tithe of 6s. an acre or £3 leaving clear rental of £37, at 3 p. c. worth 33 y. p. . .	1221
Value	<u>£4981</u>

Basement 3s. 6d., ground, first, second and third floors, 7s., 6s., 4s. and 2s. 6d. per foot super, making gross annual rent	£1000
---	-------

Deductions

Taxes and rates, housekeeper, night porter, cleaning and gas	£320
Insurance	5
Repairs 10 p. c.	100
Empties and casualties 15 p. c.	150
Collecting 2½ p. c.	25
	<u>600</u>

Net rent.	400
At 6 p. c. worth	<u>16</u> y. p.
Value	<u>£6400</u>

Ground rent (at per foot super or lineal)

£100 x 25 y. p. at 4 p. c.	£2500
Cost of building (at per foot cube) £8000 x 8 p. c. gives gross rent £640, less deductions, leaves net rent £600 x 16 y. p. at 6 p. c.	<u>9600</u>
Value	<u>£12,100</u>

Varying the valuation :—

Ground rent capitalised as before . . .	£2500
Building cost £8000, adding 20 p. c. profit	9600

Value £12,100

Ground and building rent £700 x $17\frac{1}{4}$ y. p., between 5 and 6 p. c. . . .	£12,075
---	---------

Total outlay £10,100, at 6 p. c. £606 x 20 y. p. at 5 p. c.	£12,120
--	---------

Total rent £700 x 20 y. p. at 5 p. c. . .	£14,000
---	---------

Ditto £700, if made up of the
equivalents of 20 y. p. at 5 p. c., or
 $\frac{2}{5}$ ground rent £280 x 25 y. p. at
4 p. c. £7000, and $\frac{3}{5}$ building rent
£420 x $16\frac{2}{3}$ y. p. at 6 p. c. £7000,
gives total value £14,000

Reversions.

Annual value	£160
------------------------	------

Deductions

Ground rent	£20
Land tax	2
	<u>22</u>

Net rent	138
--------------------	-----

Lease for 21 years at 7 p. c. worth . . .	$10\frac{3}{4}$ y. p.
---	-----------------------

1483

Reversionary interest in extra rent of £62, making, less deductions, £200, after 21 years for remainder of lease of 99 years, at 7 p. c. ;—whole term of 99 years $14\frac{1}{4}$ y. p., less $10\frac{3}{4}$ y. p. for 21 years, leaves $3\frac{1}{2}$ y. p. x £200 equals	700
Total value	<u>£2183</u>

Annual value	£60
Deductions	
Ground rent	£8
Landlords taxes, rates insur- ance and repairs $\frac{1}{6}$ rent	10
	<u>18</u>
Net rent	42
Lease for 20 years at 7 p. c. worth	$10\frac{1}{2}$ y. p.
	<u>441</u>

Reversionary interest in ground rent of £8 after 20 years at 5 p. c. ;—per- petuity 20 y. p., less $12\frac{1}{2}$ y. p. for 20 years, leaves $7\frac{1}{2}$ y. p. x £8 equals	60
Total value	<u>£501</u>

Valuation of the reversion to a freehold house to last 40 years at £200 net rent, subject to the life interest of a *person aged 64* and to his not leaving issue.

Rent	£200	
Duration 40 years at 6 p. c. worth . . .	15	y. p.
	<hr/>	
	3000	
Life of 64 at 6 p. c. worth 7 y. p. x £200		
equals	1400	
	<hr/>	
	1600	
Deduct also for risk of issue, say . . .	100	
	<hr/>	
	1500	
Presumed annual value of land after 40		
years, £28 per annum; and per-		
petuity at 6 p. c. $16\frac{3}{4}$ y. p., less 15		
y. p. for 40 years, leaves $1\frac{3}{4}$ y. p.		
x £28 equalling	49	
	<hr/>	
	1549	
Present worth of old materials and fixtures	51	
	<hr/>	
Total value	£1600	
	<hr/>	

Renewals.

Valuation of a rental of £500 per annum, subject to £40 reserved or quit rent, and renewable for ever on payment of a fine of £140 every 14 years, the lessee repairing, insuring and discharging taxes, &c.

Rental	£500	
Deductions		
Reserved rent	£40	
Renewing fine of £140		
every 14 years equals		
an annual payment of	10	
	<hr/>	
	50	
	<hr/>	
Net rent	450	
Term equal to a perpetuity at 6 p. c. . .	16	y. p.
	<hr/>	
Value	£7200	

Valuation of a leasehold renewable perpetually at a fine of £50 every 14 years, the profit rent being £100, and the next fine being due in 7 years.

Value of £1 payable in 7 years at 6 p. c. £.6651

" " " 21 " " '2942

" " " 35 " " '1301

" " " 49 " " '0575

" " " 63 " " '0255

" " " 77 " " '0113

" " " 91 " " '0050

" " "payable at above times,, 1'1887

Multiplied by . . . £50

Present total value of fines . . . £59'4350

Rent £100

Perpetuity at 6 p. c. worth 16'666 y. p.

1666'600

Deduct for fines . . . 59'435

Value . . . £1607'165

VALUATIONS FOR COMPULSORY SALES.

In these cases, full value to the vendor, not to the purchaser, is the basis of estimation with an addition for forced sale; and claims are customarily calculated on the following scale in the tables; but the preceding particulars and those under *Relative Value of Property* may be usefully consulted.

	p. c. column.	
Freehold agricultural land, under	3 or at 30 to 33 y. p.	
Freeholds generally	5	20
Freehold ground rents	4	25
Leasehold	5	} Seetables for y. p.
Leaseholds generally	6	
Life estates	5	

"To the total value," according to the "Architectural Dictionary," "10 p. c. is always now added for compulsory sale of anything in the nature of buildings or building land. On the value of agricultural land the compulsory sale addition is 20 p. c. at the least, but it is now very often the practice to add 25 p. c." Mr. Philbrick, Q.C., says, "that although 10 p. c. was the amount of the compulsory per centage ordinarily allowed, yet with regard to land, 25 p. c. was the ordinary amount. He had not laid it down that there must be in any case a compulsory per centage. In some cases 5 p. c. would not be too little to allow; and in other cases 10 p. c. would be an exorbitant sum."

Estimating land by assuming creation of ground rents (and it may be taken on its most remunerative likely use) must be at 5 p. c. as freehold, not at 4 p. c., as rental is not secured.

Money expended on improvement of freehold or leasehold houses may be calculated at 5 or 6 p. c., adding to rent thus;—outlay £800 at 5 p. c. equals £40 rent.

Cost of dilapidations is sometimes deducted if falling on claimant.

Retail returns may be taken at 15 to 50 or provable per centage of profit.

Businesses are worth 1 to 3 or provable years purchase of goodwill; but 10 p. c. for forced sale is not allowed. Public houses often fetch 3 years purchase besides value of premises; and 2 years purchase is common for many other businesses.

Agricultural land.

Six acres let at £2 per acre . . .	£ 12
Half an acre taken under s. 93 . . .	1
Two acres so injuriously affected by severance as to yield only £1 per acre	2
	<hr/>
	15
Under 3 p. c. table worth say . . .	30 y. p.
	<hr/>
	450
Add 20 p. c. for compulsory sale . . .	90
	<hr/>
Claim	£ 540
	<hr/>

Freehold land and house.

Land letting at £20 and house at £80, clear rent	£ 100
At 5 p. c. worth	20 y. p.
	<hr/>
	2000
Add 10 p. c. for compulsory sale . . .	200
Expenses of removal, deterioration of fitted furniture, &c.	60
	<hr/>
Claim	£ 2260
	<hr/>

Freehold ground rent.

50 feet frontage at 10s. a foot making	
rent	£25
Add 4 p. c. worth	25 y. p.
	<hr/>
	625
Add 10 p. c. for compulsory sale	62
	<hr/>
Claim	£687
	<hr/>

Leasehold ground rent.

Rent	£25
Term 48 years, at 5 p. c. worth	18 y. p.
	<hr/>
	£450
Add 10 p. c. for compulsory sale	45
	<hr/>
Claim	£495
	<hr/>

The value of the ground rent as a perpetuity after 48 years is calculated at 4 p. c. as freehold ground rent in reversion.

Severance.

The portion of an estate injured by severance may be capitalised on its rental for agricultural, market garden or building land, as the case may be, according to depreciation. If a freehold piece cut off necessitates increased expense from short ploughing or hand labour, the decreased rent is multiplied by the years purchase at 3 p. c. If probable ground rent from building is assumed, diminution in rent per foot frontage or super is multiplied by the years purchase at 5 p. c., as rental is not secured. If part in the rear is required, lessening depth of plots, these are

reckoned as proportionately lowered in worth; say from 7s. to 4s. per foot frontage, the difference 3s. being the depreciation. Some land is so intersected as to be rendered almost useless; and in other cases injury or inconvenience is variously calculated at per acre, according to interference and relative position, or on outlay necessary to reinstate value.

Leasehold House.

Net annual value or clear rent . . .	£ 100
Amount expended on improvements	
£500, which at 6 p. c. increases	
rental to	30
	<hr/>
	130
Unexpired term 26 years, at 6 p. c. worth	13 y. p.
	<hr/>
	1690
Add 10 p. c. for compulsory sale . . .	169
	<hr/>
	1859
Value of fixtures	30
Cost of removal and damage to furniture	50
	<hr/>
Claim	£ 1939
	<hr/>

Leasehold House and Goodwill of Business.

Lease.

Improved annual value of premises, from	
outlay or from rise in value of pro-	
perty, from £150 to £200, giving	
net profit rental of	£ 50
Unexpired term 26 years, at 6 p. c. worth	13
	<hr/>
	650
Add 10 p. c. for compulsory sale . . .	65
	<hr/>
Claim for lease	£ 715
	<hr/>

Goodwill.

Average takings for 3 years £5000, which at 20 p. c. makes
gross profits per annum £1000

Deductions

Rent . . .	£150
Taxes and rates	35
Employés .	160
Horse and cart	55
Sundries .	20

 20

Net profits . .	580
Worth . .	2½ y. p.

 1450

Loss from compulsory sudden realization

of stock	140
Personal inconvenience and removal .	35
Fixtures	110

Claim for goodwill	1735
Add for lease .	715

 Total claim . . £2450

Trade questions being peculiar, each case should be considered by itself, profits being ascertained by an accountant. Where only part of a business is destroyed, compensation may be thus assessed. Profits wholly subverted, £300 per annum, at 2 y. p. (or market value of goodwill) worth £600. Or there may be one years profits lost, a reaction taking place in the following year. Various collateral matters also arise; as compensation to a brewer with exclusive right to supply his lessee with beer, or to a miller similarly entitled respecting flour.

Where a party deprived of his house is compelled to take a more expensive one, he is entitled to compensation on the difference of rent. Thus suppose a doctor held premises at £100 per annum for an unexpired term of 20 years, and was obliged to take others at a rental of £150, he could claim for having to pay the extra £50, which, capitalised under the 6 p. c. column at $11\frac{1}{2}$ y. p. gives £575, with 10 p. c. £632. There are also to be considered, in many instances, interruption or depreciation of practice, often one-third, for compensation, independently of double rent, removal, refitting furniture and fixtures, personal trouble, &c.

VALUATIONS FOR ENFRANCHISEMENTS.

According to the Copyhold Commissioners, enfranchisements were at first usually made on about the following terms. 25 years for quit rents. Copyholds of inheritance, fines certain, 1 years value. Copyholds of inheritance, fines arbitrary, 4 to 6 years value. Copyholds for 3 lives, 6 years, and for 6 lives, 4 years value. Heriots, $2\frac{1}{2}$ heriots on the average of the last 3 heriots. Compensation to stewards, not exceeding one set of fees for the necessary instruments. Even now, some of these figures may occasionally be taken as rough approximate aids, although Mr. Scratchley says they are, in many instances, considerably in excess of the lord's interest; but the Commissioners have since suggested or endorsed as generally fair compensation as below. Quit rents, 28 years purchase. Fines certain, $1\frac{1}{2}$ to $2\frac{1}{2}$ fines conformably to the tenant's age. Touching arbitrary fines in ordinary copyolds of inheritance, a table is issued, giving 3 years purchase of net annual value, without deducting land tax, when the tenant's age is 20 or under, mounting to $3\frac{1}{2}$ years purchase at the age of 42, 4 years purchase at 52, $4\frac{1}{2}$ years purchase at 62, and 5 years purchase at 70 upwards. For lives, reference is made to accepted tables. The sum to be paid for a heriot may be calculated on the same principle as the consideration for an arbitrary fine, that is by substituting an annual value, when the heriot is payable on death only, one-quarter of the value of such heriot, and then applying the table as in the case of a fine. By this mode of calculation, a tenant of 20 would pay three-fourths of the value of the heriot (or for a £12 heriot $\frac{3}{4}$ or £3 × 3 y. p. = £9), and a tenant of 70 one heriot and a quarter (or £15). But if the heriot is payable on alienation besides upon death, twice the amount should be given: or, it may be added, multiplying one-half the worth of the heriot by

the years purchase in the table; this last being based on fines of two years value every fifteen years.

By s. 30 of the Copyhold Act, 1852, expenses fall on the party requiring enfranchisement. From his interests being affected, the steward sometimes exaggerates obstacles and values. Commutations are of comparatively rare occurrence.

From the varied character of copyholds, it must be obvious that special rules for estimating enfranchisement cannot apply to all cases; but the Commissioners issue an annual report of terms for enfranchisements effected and readily afford information. That given above on heriots is from Mr. Rouse's excellent "Copyhold Enfranchisement Manual," which comprises tables, with full legal and valuation particulars.

The fine is estimated on the present improved annual rent, after deducting quit rent, repairs and necessary outgoings, except land tax. If there are immediate probabilities of further improvement or facilities for extra profit, as with proximate building land, an apportionment of the estimated surplus, sometimes half and often 10 p. c., is added to the value of the fines. Bayldon observes:—"Whenever it is found that a portion of the land can be made available as building land, its value must be estimated at the sum it may be considered worth for such purposes; that sum divided by 25 years purchase, or 4 p. c., would give the assumed annual value; say the value £500 divided by 25 is 20, this multiplied by the number of years purchase, as taken from the tables, say 5 years (the full extent), gives £100 as the value of the lord's rights; the difference so produced, between the calculation made upon the ordinary rental value only, will be the prospective value." Another addition which, in certain cases, is urged as fair, is of about half or a years or more value as consideration money for general advantages arising from *enfranchisement*, suppression of obnoxious customs, &c.

Cost of collecting quit rents is deducted before capitalisation at the years purchase deemed equitable. Compensation for timber and minerals depends on proportionate customary right to them; the lord sometimes obtaining half and often a third of the worth of the former; and the latter being commonly valued by the acre, as 5s. or £5, or at a fractional part, as one-fourth, of the rental where mines are not open, but otherwise on profits where open. Heriots naturally occasion most disagreement as to extinguishment value, this also depending on whether they are uncertain personal chattels or fixed sums, the former wavering with the tenant's wealth. Five guineas is an ordinary fee for the steward for each tenement enfranchised, depending however on reasonable usage on the manor, disputes being settled by the Commissioners.

As the fines are usually the heaviest item, it is primarily important to ascertain their probable frequency on, as it may be, death only or on both deaths and alienations. In the former instance, life tables apply; but sales, depending on pecuniary position, disposition or caprice, are obviously still more uncertain. Reasonable expectation, fair chance and degree of probability are to be considered in reference to particular cases; but some general certainty is attainable from observation of the average changes in various manors. Thus, the interval on both deaths and alienations is generally taken at 13 years for houses and 15 for land, the mean being 14 years; but sometimes at 15 years for houses and 17 for land; and occasionally the average is even higher. Some surveyors, instead of assuming with the Commissioners, in their table for arbitrary fines, that alienations and deaths are of even recurrence, calculate deaths at $15\frac{1}{2}$, and both deaths and alienations at 12 years, being a difference of $3\frac{1}{2}$ years; or about 3 are taken. Fines from houses are usually capitalised at 4 p. c. compound interest, and those from lands at 3 p. c.

The mode therefore of estimating compensation is by

adding to the amount payable on transfer the present worth of the fine, with fees, when next due (in the case of the admission of an advanced life, probably 4 or 6 years, thus recognising variations in value according to age) and so on successively at periods not exceeding the interval judged applicable, pursuing the calculation to about 100 years, which is sufficiently remote. The tenant may however retain the property for life, thus, as in the case of a child, proportionately deferring the fine.

Valuation of fines on enfranchisement of a copyhold estate, or purchase from the lord of the fee simple. Improved annual rent, after deductions, £100, and fines 2 years value, making sum payable £200. Assumed fine interval 15 years, purchaser's age 70, and 5 years presumed for joint probability of his death or alienation, or for time of payment of second fine.

The present value of £1 payable now and successively in 5, 20, 35, 50, 65, 80 and 95 years amounts at 4 p. c. to 2·8180, which multiplied by £200 gives the value £563·6000. Or, taking the fine at 2 years value, 2·8180 so multiplied equals 5·6360, which multiplied by the rent £100 produces £563·6000. The Commissioners' table gives 5 y. p. of net annual value at the age of 70, or £500.

Freehold value less cost of enfranchisement may be thus calculated. Net income £100, multiplied by 25 y. p. gives £2500 for the fee simple; and capitalising the rent £100 at 5 y. p., at the age of 70, giving £500, adding for a clear quit rent of 10s., 28 y. p. or £14, £10 for a heriot best beast, $\frac{1}{5}$ the yearly land rental, or £10, for minerals, and $\frac{1}{4}$ value of timber, or £16, the total £550, deducted from £2500 leaves £1950; but the steward's fees with other expenses have not been taken into account.

Third Division.

ON BUILDING HOUSES.

BUILDING GENERALLY.

FOUR COURSES OF PROCEDURE.

Four courses are open to a person about to build. First, he may design the house, buy the materials and employ the workmen. Secondly, he may engage a builder to do these things. Thirdly, he may instruct an architect to prepare the drawings and specification, arrange the contract, superintend the erection, and certify the sums due. Lastly, he may more or less intermix the above precedures, as in speculative building.

If the first course is chosen by a person who is not an architect, surveyor or builder, he should bear in mind that the homely proverb, "He who is his own counsel has a fool for his client," embodies results as regards building, when the real facts, often carefully concealed in sheer shame, are fully known, even more invariably unsatisfactory or disastrous, failure being generally proportionate to the cool confidence in his capacity cherished by the amateur. In the second case, the temptation a builder is under, in the absence of skilled control, to prefer his own interest, which is diametrically opposite to or not the same

as that of his employer, is one of the warnings to be remembered; and the experiment will not often be made a second time. The third course is the publicly recognised means to attain the required result. For an architect's special training enables him to repay his commission with interest to the client in value of design, convenient and compact disposition, suitable and sanitary construction, and (setting aside schisms on styles, or abasement of architecture at the foot of archæology) appropriate appearance, besides in business management variously precluding imposition, and economy with certainty in cost; while a builder, or contractor, is a capitalist, who, for a profit commonly three times the architect's remuneration, provides materials and organises labour. The last alternative depends too much on peculiar circumstances for a general opinion to be given here concerning the wisdom of its adoption.

RETENTION OF ARCHITECT.

In case an architect (or a civil engineer if he hunts such small deer) is retained, he will, after ascertaining requirements and visiting the site, first furnish rough sketches of the design together with an approximate estimate. The "working drawings" and the "specification" of materials and modes of execution are next prepared. Either one builder, or, as commonly preferable, several, who may be selected or advertised for, providing that the lowest or any tender will not necessarily be accepted, give a price; and on the tender of the approved applicant, the contract is signed. If the structure is of important character, there should be a "clerk of the works" constantly on the premises to see that materials and workmanship are as specified; otherwise the architect's occasional attendance usually suffices, although it is impossible for him to see all things, and much must always *be trusted to the honesty of the builder.* The money is

paid as the works advance, on the architect's certificate, at the rate of about 75 p. c., or three-fourths of the value of what is done, and the balance after satisfactory completion.

QUANTITIES FOR ESTIMATES.

A comparatively recent method of obtaining tenders for building is by previously "taking out the quantities" for the client, a contrivance which has gradually been brought by the gentlemen who practise it to a very surprising if not very satisfactory pitch of refinement. The items of materials and workmanship, sometimes truly bewildering in their startling minuteness, are suitably scheduled, and copies are then supplied to each competitor in the most convenient form merely for pricing, it may be at genuine or fancy figures, differences far above one-half, even beyond three times, continually recurring in published lists of tenders. This virtually amounts to asking for while proximately giving a detailed estimate of materials and labour, or in most cases to doing by far the greater part of the work, except inserting prices which may be matter of notoriety, for the contractor; the point being that the employer pays very highly for otherwise appropriate and often properly voluntary and speculative functions of the former, who might proceed very differently if permitted, as a tradesman, to look at the matter practically from his own point of view, instead of regarding it, as a competitor, through the abstractions of intervening professional men. A single "quantity surveyor" generally suffices, although the cloud of details which builders are led to think ought to be separately valued is fantastically variegated; but for extensive erections two surveyors are commonly appointed, on behalf respectively of the employer and the competing builders. The remuneration, whether one or two act, is generally about 1 $\frac{1}{2}$ p. c. on the amount of the accepted tender, exclusive of lithographing, &c., paid, on receipt of

his first instalment, by the builder, to whom surveyors sometimes furnish tracings of the drawings used. But as all the money comes from the employer, there seems no reason now why he should not be advised to settle the account, thus frankly casting aside any disguise whatever from him (for otherwise the circuition is more confounding) of individual liability for sole payment, possibly first suggested by doubts of the attractiveness of the novelty if too suddenly unveiled in all its nakedness. When appointed by the builders, the surveyor is responsible to them for the correctness of quantities; if they are taken out by the architect or a surveyor (possibly "a clerk in his office or an insolvent or incompetent person") appointed by him or by the building owner, the latter, while he has a remedy against the architect or the surveyor, becomes liable to the builder for any deficiency; and if prepared by two surveyors appointed respectively by owner and builders, the two surveyors are answerable, conjointly and separately, to both builders and owner, no responsibility resting on the latter. When works are not executed, the party accountable for order incurs cost of quantities. Although naturally ample, the surveyor protecting himself, there does not appear to be the same or any such check against excessive dimensions (certainly never heard of through the contractor) as exists (and is speedily heard of by the employer) in the case of deficient dimensions, even where two surveyors act, Mr. T. H. Wyatt, in his capacity as President of the Institute of Architects, complaining that, "there is not unfrequently a division of labour, one surveyor taking out the quantities in one trade, and the other in another," and that thus "all check is lost." ("Builder," no. 1477.) Unfortunately, however, the system is established; and, knowing that cost is never lessened but sometimes increased 20 p. c. or more, from free measurement, obscurity, astonishing analysis and exquisite elaboration of details, with "the

consequent multiplication of items which, when all priced singly, at sums not above the worth of each article or process considered separately, amount in the gross to much more than the real value of the whole work done," contractors are usually unwilling, although for their own livelihood and benefit, to estimate for large works unless supplied gratis with complete calculations for pricing. So tacitly understood too, quoting a paper read at the Institute, is "the practice of most surveyors to take out the quantities *full*, that is, rather in excess of the actual quantity of material," that, "it is a common practice for builders to take 5 or even 10 p. c. off the amounts of their bills when monied out before sending in their tenders;" while some builders refuse the schedules of certain surveyors known to be "in the habit of taking out the quantities too *close*, that is, too near the accurate amount." One of the most experienced London architects and a Vice-President of the Institute also noticed in discussion the "prevailing opinion that there are many things put into bills of quantities which the builder strikes out; such as rebates, mitres, and a variety of things which the builder takes no notice of. At the same time these minutiae are carried to such an extent as to materially influence and swell the general bulk of the bills of quantities; and the builder, though he passes over many, is influenced by their being upon the bill, and thinks they are something that he ought to be paid for. I have known some excellent employers so much influenced by this impression that they have avoided altogether having bills of quantities taken out." As was elsewhere naïvely admitted by an interested party,—“We’ve a maxim that puts a deal of money into our pockets; the more you dissect it, the better it cuts up;” that is for all parties but the employer, it needing no prophet to prove that the sum of such fractional, isolated and episodic “full” portions *must* differ greatly from the worth of the entire thing. After

serving as the basis of tenders, quantities are ignored in the contract, which is made upon the drawings and specification ; but sometimes, although discountenanced by the Institute, the quantities are made part of the contract, leading to laxity in extraction, the surveyor's responsibility being lessened, uncertainty in cost, and sometimes, specially where small alterations are made, involving deferment of final composition till the amount of work is tested in proof of the figures. "It means," Mr. George Godwin observes, "that the settlement is kept open till the whole thing is measured and the quantities are checked. I have seen the evil in practice, and it is obvious in theory: the employer is never certain of the sum he has to pay till the whole thing is settled. It seems to me open to the gravest objection."

It is considered very undesirable for the architect (particularly in the happily rare view of the client as fair game for whatever can be got out of him) to take out quantities, if only from the circumstance that if paid by the builder he occupies the invidious position, especially where correctness is challenged or disputes arise, of more or less partial employé of or dependent on the person (or client!) whom he superintends, the healthy principle being that he should receive nothing whatever, in any capacity, from the builder; and his situation being only partially modified in its delicacy, as regards inaccuracies, &c., when he is remunerated directly by the principal. While also a favoured surveyor among builders is not the most suitable representative of employers, scarcely any fully qualified quantity surveyors (the Jack-of-all-trades principle applying) are really qualified architects; and fewer still of the latter in moderate practice can afford time only even to supervise conscientiously and really effectually accurate quantity estimation.

From the few brief but weighty matters of consideration *for the public* and the profession on this important subject,

which space here allows of iteration, it is manifest that the system of preliminary quantitation is, in many respects, very abnormal, singularly objectionable and peculiarly tempting to great abuse and various litigation, there being plainly considerable room for reasonable and radical revision, which also, considering that inequitable arrangements can never either permanently or beneficially endure, is assuredly not more in the interest of the employers than in that of the builders; in fact the council of the Institute, after years of inquiry and discussion, resolving in 1874, "that the *whole* question of the employment of quantity surveyors demands much further consideration."

Finally, crowning the complications, competing contractors of high standing ever and anon (quoting some generically significant remarks from p. 169 of the "Builder" for 1869) protest against being "duped by what they consider sham advertisements," or "mock invitations to put themselves to unnecessary cost and anxiety," when "the contract is, so to say, predetermined" and given to one whose estimate is very considerably more, perhaps three or four times higher on the list, than that of the lowest tenderer, while all the lower tenderers are particularly unobjectionable and desirable parties; such conduct naturally provoking "a good deal of very unpleasant talk both in the building trade" and elsewhere.

If builders will not base estimates for other than small works on their own examination of the drawings and specification (even if a fee is offered) tenders may be made, as in many government and private works, not in gross, but on a simple and sensible schedule of general prices, or on them at so much p. c. more or less; a method very useful too where what is proposed is not quite settled, or alterations and improvements on the original scheme, as in nearly all extensive erections, are probable or desirable. As the, technically, "day work" is executed to the architect's satisfaction, it is measured, for which "measuring"

surveyors, and then there should always be two, charge between them $2\frac{1}{2}$ p. c. Tendering or contracting thus, an approximate estimate having been previously supplied by the architect, certain final figuring that might appear in quantities being allowed for by builders after examining the documents, and any unfair trade "customs" in mode of measurement for the benefit of contractors, originating the terms "blood-work" and "measure and robbery" ("Builder," no. 160), being cast aside, may be made a very equitable if not very economical arrangement, in the enforced absence of a builder's genuine, untrammelled and unsophisticated estimate for determinate operations.

GENERAL CONDITIONS OF CONTRACTS.

For heavy works a builder should find sureties, to be bound with himself, jointly and severally, in a certain sum (say one-fifth outlay) for efficient performance of the contract. Besides the special provisions appropriate to particular cases, clauses to the following effect are commonly included in the "general conditions" of most contracts.

The contractor is to provide every requisite for performing the contract according to the drawings and specification; to give needful notices to public authorities and pay their fees; to be responsible for loss, damage or accident at the works during their progress, accidental fire excepted, and also for damage to adjoining property; to insure in joint names of the employer and himself before the first instalment is paid; and not to sublet without written consent.

The architect is to have full control over the works, with power to enforce the discharge of incompetent or disrespectful workmen, and to reject improper materials and workmanship, or such as he disapproves, and to require re-execution within (seven) days, and in case of default to *employ other persons at the contractor's expense.* He is

also to be at liberty to suspend the works on account of the weather or for other reasonable cause without extra charge by the contractor.

The contractor is to derive no advantage from omissions in the drawings and specification of things clearly within their intent and spirit, but is to provide and execute them as if fully described.

Alterations in execution ordered by the architect are not to vitiate the contract; but extras, omissions and deviations are to be measured and valued according to a schedule of prices previously agreed upon (or at — p. c. below Laxton's Builders' Price Book) if cost is not settled when order is given; and the amount is to be either added to or deducted from the final balance due to the contractor; but the contractor is not to be considered as having authority for any alteration or for any extra charge without an order signed by the architect.

If the contractor is bankrupt or compounds with his creditors, or if the works do not proceed with proper dispatch, or continuously, or to the satisfaction of the architect, the employer is to have full power, after fourteen days written notice, to suspend the works and payments and to employ another builder. But if the employer, without lawful cause, makes default in payment under the architect's certificate, the contractor may, after fourteen days written notice, suspend operations and claim for work done and materials prepared.

Disputes respecting the nature and value of extras, omissions and deviations from the contract, or if the works are anywise suspended respecting the value of executed work or materials, are to be settled by two arbitrators or an umpire; but in all other disputes the architect's decision is to be final.

The works are to be commenced on ——— and completed on ——— under a penalty of (£5) for each day they remain unfinished, but allowing for suspension by the architect's

order, or for strikes, &c., and one week for every (£50) of extra work.

The money is to be paid at a rate not exceeding 75 p. c. on the architect's estimate of the amount of work executed, in sums not less than £— and reserving a balance of £— until three months after the architect has certified entire completion to his satisfaction on the contractor making good any defects attributable to him that may then appear; but the contractor is not, under any circumstances, to be relieved from liability, or the employer to be, in any manner, barred from his remedies for improper materials or workmanship or unauthorised deviations from the drawings and specification, whether or not such improper materials or workmanship or unauthorised deviations are noted before or after granting any certificate.

The works are to be executed under the direction and to the satisfaction of the architect, A. B., of &c.

Jarman observes that;—"A contract for building a house is clearly not a contract relating to land, or for the sale of goods, within the Statute of Frauds, and unless it is not to be performed within the year, may be made by parol (orally), and if made by writing subsequently, may be varied by parol." Addison and Chitty are the two great authorities on the law of contracts.

FORM OF AGREEMENT.

Agreement made this — day of — between A. B. and C. D.

A. B. agrees, for himself, his executors and administrators (not assigns), to provide all materials and labour and to build the house and appurtenances at — in all respects whatsoever as shown and described in certain drawings and a (the foregoing) specification with general conditions, all of which drawings with the specification and general conditions have been signed by the respective parties hereto at the date of executing this agreement for the sum of three thousand pounds.

In consideration whereof C. D. agrees, for himself, his

executors and administrators, to pay to A. B. the amount aforesaid according to the general conditions.

A. B.

C. D.

Witness E. F.

The specification and drawings may have each a memorandum: this is the drawing No. 4 named in the specification and — the specification and general conditions contained in this and the 30 preceding sheets (each being initialed) are those — referred to in the agreement between us dated—

REMUNERATION AND RESPONSIBILITY OF ARCHITECTS.

The usual remuneration for an architect's services is by commission (no altogether better system having yet been devised) on the value of works proposed or executed of not less than $2\frac{1}{2}$ p. c. for working drawings and specification for contract, and $2\frac{1}{2}$ p. c. for superintending execution. This is exclusive of travelling expenses, time in going to distant parts, quantities, measuring and salary (£2 or £3 weekly) of clerk of works; also of services respecting site, party structures, boundaries, lights, &c., and of extra trouble consequent on alterations, failure of builders, and such matters, all which, together with preparation of sketch designs when building is abandoned, are charged by time.

The commission of 5 p. c. is payable, one-half when, so far as the architect is concerned, all is ready for contract, and the remainder at the rate of $2\frac{1}{2}$ p. c. as instalments become due to the contractor.

For works under about £500, or in alterations of premises, or where old materials are used, 5 p. c. is not remunerative; and it is usual to charge either by time or by scale up to 10 p. c. The rate per day of six hours rises from £2 2s. or £3 3s. (of course not for clerk's work); and for assistants it is 10s. or £1 1s.

In the case of *Collins v. Ullman* ("Builder," Dec. 20, 1873) Baron Cleasby directed that, the rules of the Institute of British Architects respecting professional charges

were a safe guide for himself and the jury. They are procurable, price 3*d.*, at the Institute.

Drawings and specifications of executed buildings belong to the architect, the employer paying for their use only.

Although the profession of architecture yields to none other in the strict integrity and high sense of honour maintained by the great majority of its members, however it may now do so in compass of competency, there is still some scope for suggestions to employers. These should regard in any architect cringing subserviency and obsequious alertness in sacrificing his mature ideas, often accompanied by mischievous arbitrariness leading to litigation with contractors, either with grave mistrust or as quite other things than courteous pliability and sedulously studious effort to realise expectations. While, on the one hand, many employers, after deferring decision almost to the last moment, are thereupon proverbially eager, and sometimes even in hot haste, at once to commence building, on the other hand, they must not conclude their interests are neglected because drawings and specifications sometimes take considerable time in proper preparation. Moreover, in professional persons particularly, obtrusively bustling hurry and ostentatiously driving rapidity, whether natural or assumed, are more consonant with the bungling blundering of little minds over little matters than with the calm capability, cool deliberation and methodical application essential for genuine progress in multiform and serious business, many men, in various pursuits, of even gigantic industry, frequently appearing in manner (disdaining vapid vaunting) to be less busy than some almost unoccupied. "One of the most remarkable things about Romilly," Wilberforce says, "was, though he had such an immense quantity of business (making upwards of £15,000 a year), he seemed always an idle man." So again, the great surgeon Nélaton once observed to his assistant,—*"You are too quick; remember we have no time to lose."*

Care should of course be taken to select a respectable man, and not one who disgraces his vocation by imbibing bribes from builders, or by covertly stipulating for commission from manufacturers whose productions he specifies. The Institute of Architects properly expels "any Fellow or Associate for the receipt or acceptance of any pecuniary consideration or emolument from any builder, or other tradesman, whose works he may have been engaged to superintend;" and the American Institute of Architects has adopted a similar rule. An architect cannot thus honourably receive either unauthorised and unrecognised remuneration or surreptitious and contaminating compliment; for he is, at least, as much bound morally to be unequivocally honest in all respects as he is legally to exercise ordinary diligence, care and skill. "If," says Woodfall, "a surveyor make an estimate which turns out to be incorrect to a considerable amount, and consequently entirely useless, through his omitting to take reasonable precaution in forming his judgment, he is not entitled to recover anything for his plans, specifications or estimates made for the work; but this is a dangerous ground of defence, it being a question for the jury whether the work done was of *any* use or value to the defendant. It is frequently better to pay the sum demanded, as agreed, and afterwards bring a cross-action for the negligence and want of due care and skill."

BUILDING LEASES.

EXPLANATION.

Building leases are contingent on erecting structures; and their common origin is indicated under *Creation of Ground Rents*.

The following terms are adapted for letting in lots an estate of some acres; and the bracketted particulars are variations applicable in sundry cases. Scheduled clauses may be incorporated into, — Agreement for letting to A. land at B. belonging to C.

CONDITIONS.

Term: 99 years from —

Ground rents. Next — Road 4s., next — Road 6s., next — Road 7s. 6d. per foot frontage, corner plots 10s. per foot principal frontage or by special arrangement. First years rent a peppercorn (5s.) if demanded, and second year at half-rent. Rent to be payable quarterly on usual quarter days, without deduction except landlord's property tax, the first quarters rent of £ — to be paid — Parties taking land may apportion ground rent among houses built, provided none are rated lower than the frontage amount herein and none above one-fifth reasonable rack rent. (Or provided the sum apportioned upon each house or the premises comprised in each lease is not above — nor less than — of gross yearly value.)

Cost. Only detached or semi-detached houses are to be built; the former costing at least £ — each, and the latter at least £ — the pair, without separate outbuildings, *stabling and boundary walls or fencing*; the cost computed

at 6*d.* per cubic foot excluding concrete (or at the whole-sale rate of materials and labour; or to let at not less rental than £—).

Completion. Possession of land is given on signing agreement; and each detached house or each pair of semi-detached houses, with appurtenances except stabling, is to be completed within — of date of agreement; or one detached house or one pair of semi-detached houses, with appurtenances except stabling, within each successive — in default whereof or of observance of any other conditions, or if the works do not proceed as regards time or manner of execution continuously or to the reasonable satisfaction of freeholder's surveyor, it is to be in the power of freeholder to annul everything herein contained and to take possession of the ground and buildings, with materials and plant, not leased by him, and to dispose of them to any other person.

Security. The contractor is to be bound in the sum of £— (or if required to find approved security not exceeding £—) for due performance of the conditions.

Insurance. Houses are to be insured in the Phoenix Fire Office by party taking land before ground floor joists are laid for three-fourths (full) retail value when completed, in joint names of freeholder and party taking land or lessee; and policies with receipts for premiums are to be produced when required.

Trades. Only private houses with necessary appurtenances are to be built; and no manufacture, trade, business, hotel, public house, tea garden, livery stable, asylum, sanitarium, school, or any sort of warehouse, factory, shop or office, is to be conducted or opened, or in any other way whatever are goods to be exhibited for sale; and no bricks or tiles are to be made or burned, or lime burned, or anything done that may be or become a nuisance or annoyance on any part of the estate (except, as regards particular lots, certain specified or approved trades).

Building regulations, &c. Until adopted as public highways by the authorities, lessees are, according to their frontage and depth, to repair and maintain, or, at freeholder's option, to contribute with owners or lessees of other parts of the estate towards repairing and maintaining roads and paths, which all persons are to have full right to use. The corners of — Roads are struck with a radius of 6 ft., and of — Roads with a radius of 10 ft. Parties taking land or lessees are to contribute towards the expense of any sewer that may be constructed for their joint use by freeholder; and they are forthwith at their own cost to form separate drainage into it from each house. The proportionate charge on each lessee for roads and paths or for any sewer is to be settled by freeholder's surveyor, who will also give notice with particulars of drainage to be executed. (Lessees are to contribute towards any sewer formed by freeholder after the rate of 7s. for each foot of their frontage, to be paid in one sum and be recoverable like rent on the quarter day following completion.) The party taking land is to erect and each lessee is to maintain boundary fences on the sides of his plot marked T on the accompanying plan, or plan of estate: or questions respecting the erection, kind, ownership, maintenance or joint expense of fencing or party structures, if not arranged herein, are to be determined by freeholder's surveyor. No structures except boundary walls or fences not above 7 ft. high are to be erected within 20 ft. of the roads; no intersecting road is to be made through any plot; and no houses fronting — Road are to be higher than — feet to ridge of roof. Sheds not allowed except during building. Water is to be laid on from main to the top of first floor of each house. No trees are to be felled without surveyor's written consent, except those necessarily displaced by approved works. (Specify materials to be used, as:—brick or stone walls; concrete under main walls; mortar of stone lime and river sand; stock bricks with malm facing to principal fronts; damp-

course throughout; stoneware drains, trapped; Memel or Riga fir and Baltic deals; all timbers to be of sufficient or approved scantling; plates not less than $3\frac{1}{2}$ x 3 ins.; joists of 10 feet bearing not less than 7 x 2 ins., others proportionate; rafters not less than 4 x 2 ins.; and no quarters, joists or rafters above 1 ft. apart; floors not less than inch thick; slated or tiled roofs, with lead gutters, flashings, &c., and iron eaves gutters and down pipes; approved plastering; four coats of paint; and all materials sound, and new, with good workmanship, and every requisite for the class of houses. A full specification is often desirable.)

Mutual covenant. The lease is to contain a mutual covenant by freeholder and lessee with each other and also with lessees of the other lots to observe foregoing stipulations, with a proviso limiting personal liability to period of lesseeship; but no lessee is to be entitled to see to execution of deeds containing such covenant with or by any other lessee, or to make any objection or requisition in respect of any such covenant.

Freeholder's surveyor. Drawings of all buildings and block plan showing position, drainage, fencing and gates, with designs or sufficient description of the two last, and general specification of materials and construction, are to be submitted to freeholder's surveyor; and until such documents have received his signature as approved and copies have been deposited with him, no work is to be begun. (The elevations, if not considered appropriate by the surveyor, will be modified by him without material increase of cost, or charge beyond his fee after named.) The person taking land is to pay surveyor's fee of 1 p. c. on cost of house only, excluding separate outbuildings, stabling, fences, &c., computed at 6d. per foot cube above concrete, for his certificate that all buildings, fences and appurtenances are completed to his satisfaction and for plans on deeds. A fee of £2 2s. is also to be paid by lessee to surveyor for examining drawings and specification, attending at estate

and approving in writing erection of stabling or substantial additions or alterations after grant of lease. (The surveyor's fee is to be £— each house or £— each pair of semi-detached houses to be paid by proposed lessees for his certificate and plans on deeds before leases are granted.)

Freeholder's solicitor. Duplicate agreements prepared at expense of party taking land, not exceeding £2 2s. the pair, are to be exchanged for leases of several or separate leases of any houses on producing surveyor's certificate of completion with fences and appurtenances to his satisfaction; and leases are to be granted to party taking land or

his nominee or nominees, who are thereupon to accept them and execute counterparts. Leases and counterparts are to be prepared by freeholder's solicitor at the cost, exclusive of plans, stamps and registration, of £6 6s. the pair to be defrayed by lessees. They are to contain usual covenants and conditions including those herewith (or as in the second following agreement). The ordinary form of lease may be perused at the office of freeholder's solicitor (and will be scheduled to this agreement), also a copy of the conveyance by which freeholder holds; but no further inquiries or investigations are to be made into his title or power to lease. The heirs, executors and administrators of the party taking land are, in case of his death, to be bound by the agreement.

Terms for all the estate. Rent £— per annum for first — years and £— per annum afterwards, clear of deduction, for term of 99 years from—; the party taking land to lay it out, to form roads, sewers, &c., as plan and specification, and to erect not less or more than — detached and semi-detached houses, of the value of £— within — and not less than — houses within — until all are built, to the satisfaction of freeholder's surveyor, and in accordance with applicable preceding conditions, freeholder granting leases when — at ground rents — on payments previously indicated.

SHORT CONTRACT.

A. B. agrees to let and C. D. to take the land marked lot 7 on the plan of the estate at—(or the land having a frontage towards— Road of—feet with a depth of—feet, both a little more or less; or the land delineated herewith) at the rent of £— per annum, in accordance with the foregoing conditions and the draft lease we have perused (or scheduled herewith).

Dated —

A. B.

Witness E. F.

C. D.

AGREEMENT WITH PROVISION FOR ADVANCES.

The following outline agreement for a building lease with advances to the builder will be suggestive; but sometimes a mortgage is executed as additional security for repayment.

Agreement made this — day of — between A. B. and C. D.

A. B., hereinafter called the lessor, for himself, his heirs, executors, administrators and assigns, agrees with C. D., hereinafter called the lessee, his executors and administrators, as follows.

In consideration of the rent, conditions and covenants within named, when the lessee has completed the houses with appurtenances as presently described, the lessor shall demise, as hereinafter stipulated, the land coloured red on the marginal plan and situated — for the term of 99 years from — at 5s. for the first year, and at the aggregate rent of £— for the next year, and of £— per annum for the remaining term, payable quarterly, without any deduction except property tax for taxes or other outgoings, the first quarterly payment of £— to be made —

The lease or leases shall comprise covenants: to pay rent and taxes; to repair; to paint outside every three and inside every seven years; to insure in joint names of lessor and lessee to full value, and to show receipts; to rebuild or reinstate as before

in case of destruction by fire or otherwise ; that the lessor may enter and view state of repair, and that the lessee shall repair according to notice ; that the lessee shall not use the premises for trade purposes; or commit waste, make structural alterations, or permit any nuisance or annoyance ; or assign or underlease without written notice to the lessor stating short particulars ; that he shall leave the premises with all fixtures in good repair at the expiry or sooner determination of the term; with proviso for re-entry of the lessor on non-payment of rent or breach of covenant; and with ordinary covenant by the lessor for quiet enjoyment.

The lessee shall commence within — of the date hereof and erect at his own expense, under the instructions and to the satisfaction of the lessor's surveyor, with new and sound materials and good workmanship, six houses with appurtenances (to cost not less than £— each in accordance with drawings and specification approved in writing by the lessor's surveyor or) according to the drawings and specification bearing even date herewith and the signatures of the lessor and the lessee. The lessee shall complete three houses with appurtenances on or before — and the other three houses with appurtenances on or before —.

The lessee shall pay a reasonable share of the cost of the road and sewer, to be determined by the lessor's surveyor ; and he shall not remove earth except necessarily dug for works.

The lessee shall be entitled to apportion the ground rent of the houses, but so that none are rated above £— nor less than £— per annum.

The lessor shall, when his surveyor certifies completion of the houses with appurtenances, for which the lessee shall pay the surveyor's fee of $2\frac{1}{2}$ p. c. on the amount of advances (for the drawings and specification with supervision), grant to the lessee, or to his nominee or nominees, one lease of all or separate leases of each or several of the houses for the residue of the term, under the covenants before named, on the lessee or lessees executing counterparts and paying legal expenses (not exceeding £— for the first, or sole, lease and counterpart and £— for each following pair, exclusive of stamps), such leases and counterparts being prepared by the lessor's solicitor. The lessee shall be *entitled to buy the fee simple* of all the land within two years

from this date for £— (or 20 years purchase of the ground rent) ; but he shall not require any proof of the lessor's title.

The lessor shall advance to the lessee, upon the surveyor's certificate, £— for each house upon three of the houses, and on repayment of the full sum with interest on or before — the same amount shall be advanced upon each of the other three houses, and this sum shall be repaid with interest on or before —. The interest as above is to be at the rate of 6 p. c. per annum computed from the times of advances ; and these are to be in sums of not less than £— on the surveyor's estimate of one-half (or two-thirds) the value of work executed (or state graduated proportion, or successive percentage ; when the joists are fixed, roofs covered, plastering performed, joinery finished, and all complete).

If the lessee fails to observe any of his obligations, or if the works do not proceed continuously and with reasonable despatch or to the satisfaction of the lessor's surveyor, or if the lessee disposes of any of his interest without the lessor's written consent, or if the lessee is bankrupt or compounds with his creditors, the lessor shall be released from liability to make further advances and shall be entitled to resume and take possession of the land and buildings (with all the materials and plant thereon) which have not then been leased, and to keep the same as absolutely forfeited to him, but without prejudice to his other legal rights. It is finally stipulated that this agreement shall not operate as an additional demise or any interest in the nature thereof before granting the lease or leases.

• In witness whereof the said parties have hereto set their hands the day and year first above written.

A. B.

C. D.

Witness E. F.

SURVEYORS' CHARGES.

Surveyors' fees in respect of building land are inversely to the importance of operations. Where these are extensive, the following are approximate charges.

Surveying land and preparing plan of plots, with estimate of ground rents, &c., from 10s. to £1 10s. or more per plot.

Drawings, specification, obtaining tenders, arranging contract and supervision of roads and sewers, $2\frac{1}{2}$ p. c.

Inspecting buildings during progress for fulfilment of conditions and certifying for lease, $\frac{1}{2}$ or 1 p. c., or per visit; but including drawings and skeleton specification with duplicates, $2\frac{1}{2}$ p. c.; or if several houses are erected alike $1\frac{1}{2}$ or 2 p. c.; or $2\frac{1}{2}$ p. c. for one house and $1\frac{1}{2}$ p. c. for the remainder; or a percentage otherwise, trouble varying, on one house for the documents only and another percentage on the cost of houses supervised. This is often paid by the builder on the amount of advances, and sometimes on cost per cubic foot.

Putting plan of lots on deeds about 10s. each.

Letting lots, 1 years ground rent; on large estates one-half. Selling lots by private contract $2\frac{1}{2}$ p. c., but sometimes 5 p. c. up to £100.

GENERAL FEATURES IN RESIDENCES.

LOCALITY.

Distance from London or a town ; railway, main road, conveyances, post office, church, shops, schools, doctor, &c. Expenses of living.

Environment and class of neighbours ; doubtful, respectable, fashionable, exclusive ; accessible, retired ; distance from various society, amusements, &c. ; adjoining tenants adjacent premises ; their probable alteration or conversion to other purposes.

State of roads, paving, drainage, lighting, &c.

Scenery, walks, drives, sporting, fishing, hunting.

Healthfulness with regard to particular constitutions elevated or dry, low or damp, bracing or mild air.

Present or presumptive nuisances in neighbourhood annoying trades, manufactories, &c.

HOUSES.

- Character, style and build of house ; detached, &c. ; age.

Position : obnoxious exposure ; shelter ; prospects.

Aspect : S.W. worst, S.E. best and S. next desirable, N. gloomy, E. dry, S. W. windy and with W. wet. Square of plan of house should be cross-wise or diagonal with cardinal points, principal front best facing S.E., for sun to shine on all sides.

Rooms : number ; shape, size and height ; convenient position with reference to each other, the grounds, street, service, &c. ; approaches to garden ; staircase, accessible, wide, easy and light ; servants' stairs.

Offices : sufficiency, size, suitable situation, lighting and

ventilation; cupboards, larder, pantry, wine, beer, coal, additional cellarage, &c.: number of W.C.s and inside house, with ventilation.

Water supply: constant or intermittent; peculiar quality, analyzation; hard and soft; well distant from cesspool; tank taking rain water; pumping; cisterns accessible and covered, sufficient for bath, &c., upstairs to supply top rooms, and separate cisterns to W.C.s; hot water laid on; pipes generally so arranged as to obviate smells or damage from superfluence; degree of protection from frost, cased; all waste pipes trapped; overflows unconnected with drains, falling on surface gulleys; ventilating pipes to soil pipes of W.C.s and wastes to sinks. Slate or iron preferable to lead or zinc cisterns.

Drainage: into sewer or cesspool; size of cesspool, when emptied, if more than one or any disused; distance from house and source of water, and where overflow delivers, or if liquid soil is retained, as in clay, or absorbed, as in gravel, at more or less depth; smells from old or badly constructed drains or cesspools or from defective traps; drains trapped before entering house or cesspool; ventilator carried up outside wall; if drains are stoneware.

Dustbin covered and secluded.

Lighting: less easy to enlarge windows than to diminish light by blinds, &c.; light in passages, &c.

Ventilation: of rooms, stairs, passages and offices; through house as regards back rooms and openings; height of rooms; windows high and opening at top; W.C.s; sufficient air bricks, specially in basement; perforations in ceilings with tubes above gas burners most important, a single burner consuming more oxygen and producing more carbonic acid gas than eight candles.

Dampness: shown by loose papering, discoloration of walls, &c.; counteracted or prevented by damp courses in walls to stop rise, by cementing outside, by areas and by circulation of air.

Warmth: thickness of walls, 9 ins. too slight; space between ceilings and roofs; hall warmed and with closed porch or screen; doors and windows draft-proof; character of stoves, especially range, boilers, &c.; closed range in small kitchen extremely deleterious. Smoky chimneys, indicated by ceilings, chimney-pieces and tops of flues.

Construction and state of repair. Strength of walls. Settlements: crack runs upwards towards side sunk; and cracks below with tendency to meet above indicate central failure; often observable in walls cemented to conceal bad bricks. Observe roofs, especially next chimneys and parapets, and if patched; gutters sound and large enough; pipes sufficient; lead and iron preferable to zinc; trap door. Floors and stairs vibrate and creak; stamp on them. Gaping joints in floors, skirting, &c., causing drafts. Free action of doors, sashes and shutters, with fastenings and keys; also bells; W. C. apparatus, pumps, sinks, &c. Glass broken; also hearths, paving, chimney-pieces, &c. Papering, painting, graining, whiting, colouring, &c.

Cost of necessary repairs, decorations, additions or alterations. Repairs, &c., landlord will agree in writing to do within definite time or before entry; also during term. Tenants' liabilities to repair; leave to make alterations or improvements, and if practicable or inexpensive.

Schedule of fixtures with their condition and adequacy; what are to be bought or removed.

GROUND AND APPURTENANCES.

Soil and subsoil: clayey retains moisture and mist after rain, being very unhealthy, while sandy or gravelly is dry, and loamy best for cultivation. Drainage of ground; drains stopped.

Distance from road; carriage approach; lodge; servants' entrance.

Stabling : number of stalls and loose boxes ; coachhouse accommodation ; harness room, loft, bedroom ; fittings.

Farm erections ; outhouses ; suitable space with liberty to erect buildings ; allowance for outlay after term, say three-quarters or half cost.

Conservatory and if attached to house ; greenhouse ; heating. Pleasure grounds, wooded, lawn ; flower, fruit and kitchen gardens ; walling ; general character of contents ; suitable localization.

Extent of land ; arable, pasture, &c. ; supplemental land. Disposal of stock, &c.

State of enclosures ; fences, gates, hedges, ditches ; ownership and liability to repair.

TENURE AND PRICE.

Nature and length of title. Rental.

Freehold, and if tithe free and land tax redeemed. Copyhold and kind, with full particulars of fines, rents, heriots, &c. Leasehold ; direct or intermediate ; term ; ground rent ; abstract of covenants and conditions.

Price. Payment at once or in instalments. Proportion on mortgage : interest and time ; likelihood of principal being then required. Additional sum for stock, timber, fixtures, &c. ; or if by valuation. Terms for more land. Price of ground rent.

Letting. Premium. Entry and payment of rent, when first and with what deductions. Taxation. Repairs. Notice to quit ; option of renewal.

Compare previous sections of the work.

THE END.

THE PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862,
was awarded to the Publishers of
"Weale's Series."



A NEW LIST

OF

WEALE'S RUDIMENTARY SCIENTIFIC, EDUCATIONAL, AND CLASSICAL SERIES.



These popular and cheap Series of Books, now comprising nearly Three Hundred distinct works in almost every department of Science, Art, and Education, are recommended to the notice of Engineers, Architects, Builders, Artisans, and Students generally, as well as to those interested in Workmen's Libraries, Free Libraries, Literary and Scientific Institutions, Colleges, Schools, Science Classes, &c., &c.

N.B.—In ordering from this List it is recommended, as a means of facilitating business and obviating error, to quote the numbers affixed to the volumes, as well as the titles and prices.

. The books are bound in limp cloth, unless otherwise stated.

RUDIMENTARY SCIENTIFIC SERIES.

ARCHITECTURE, BUILDING, ETC.

No.

16. **ARCHITECTURE—ORDERS**—The Orders and their Æsthetic Principles. By W. H. LEEDS. Illustrated. 1s. 6d.

17. **ARCHITECTURE—STYLES**—The History and Description of the Styles of Architecture of Various Countries, from the Earliest to the Present Period. By T. TALBOT BURY, F.R.I.B.A., &c. Illustrated. 2s.

. ORDERS AND STYLES OF ARCHITECTURE, in One Vol., 3s. 6d.

18. **ARCHITECTURE—DESIGN**—The Principles of Design in Architecture, as deducible from Nature and exemplified in the Works of the Greek and Gothic Architects. By E. L. GARRETT, Architect. Illustrated. 2s.

. The three preceding Works, in One handsome Vol., half bound, entitled "MODERN ARCHITECTURE," Price 6s.

22. **THE ART OF BUILDING**, Rudiments of. General Principles of Construction, Materials used in Building, Strength and Use of Materials, Working Drawings, Specifications, and Estimates. By EDWARD DOBSON, M.R.I.B.A., &c. Illustrated. 1s. 6d.

23. **BRICKS AND TILES**, Rudimentary Treatise on the Manufacture of; containing an Outline of the Principles of Brickmaking. By EDW. DOBSON, M.R.I.B.A. With Additions by C. TOMLINSON, F.R.S. Illustrated. 3s.

25. **MASONRY AND STONECUTTING**, Rudimentary Treatise on; in which the Principles of Masonic Projection and their application to the Construction of Curved Wing-Walls, Domes, Oblique Bridges, and Roman and Gothic Vaulting, are concisely explained. By EDWARD DOBSON, M.R.I.B.A., &c. Illustrated with Plates and Diagrams. 2s. 6d.

44. **FOUNDATIONS AND CONCRETE WORKS**, a Rudimentary Treatise on; containing a Synopsis of the principal cases of Foundation Works, with the usual Modes of Treatment, and Practical Remarks on Footings, Flanking, Sand, Concrete, Béton, Pile-driving, Caissons, and Cofferdams. By E. DOBSON, M.R.I.B.A., &c. Third Edition, revised by GEORGE DODD, C.E. Illustrated. 1s. 6d.

LOCKWOOD AND CO., 7, STATIONERS' HALL COURT, E.C.

Architecture, Building, etc., continued.

42. **COTTAGE BUILDING.** By C. BRUCE ALLEN, Architect. Eleventh Edition, revised and enlarged. Numerous Illustrations. 1s. 6d.
45. **LIMES, CEMENTS, MORTARS, CONCRETES, MASTICS, PLASTERING, &c.,** Rudimentary Treatise on. By G. R. BURNELL, C.R. Ninth Edition, with Appendices. 1s. 6d.
57. **WARMING AND VENTILATION,** a Rudimentary Treatise on; being a concise Exposition of the General Principles of the Art of Warming and Ventilating Domestic and Public Buildings, Mines, Lighthouses, Ships, &c. By CHARLES TOMLINSON, F.R.S., &c. Illustrated. 3s.
- 83** **CONSTRUCTION OF DOOR LOCKS.** Compiled from the Papers of A. C. HOBBS, Esq., of New York, and Edited by CHARLES TOMLINSON, F.R.S. To which is added, a Description of Fenby's Patent Locks, and a Note upon IRON SAFES by ROBERT MALLETT, M.I.C.E. Illus. 2s. 6d.
111. **ARCHES, PIERS, BUTTRESSES, &c.:** Experimental Essays on the Principles of Construction in; made with a view to their being useful to the Practical Builder. By WILLIAM BLAND. Illustrated. 1s. 6d.
116. **THE ACOUSTICS OF PUBLIC BUILDINGS;** or, The Principles of the Science of Sound applied to the purposes of the Architect and Builder. By T. ROGER SMITH, M.R.I.B.A., Architect. Illustrated. 1s. 6d.
124. **CONSTRUCTION OF ROOFS,** Treatise on the, as regards Carpentry and Joinery. Deduced from the Works of ROBISON, PRICE, and TREDGOLD. Illustrated. 1s. 6d.
127. **ARCHITECTURAL MODELLING IN PAPER,** the Art of. By T. A. RICHARDSON, Architect. With Illustrations, designed by the Author, and engraved by O. JEWITT. 1s. 6d.
128. **VITRUVIUS—THE ARCHITECTURE OF MARCUS VITRUVIUS POLLO.** In Ten Books. Translated from the Latin by JOSEPH GWILT, F.S.A., F.R.A.S. With 23 Plates. 5s.
130. **GRECIAN ARCHITECTURE,** An Inquiry into the Principles of Beauty in; with an Historical View of the Rise and Progress of the Art in Greece. By the EARL OF ABERDEEN. 1s.
- ** *The two Preceding Works in One handsome Vol., half bound, entitled "ANCIENT ARCHITECTURE." Price 6s.*
132. **DWELLING-HOUSES,** a Rudimentary Treatise on the Erection of. By S. H. BROOKS, Architect. New Edition, with plates. 2s. 6d.
156. **QUANTITIES AND MEASUREMENTS,** How to Calculate and Take them in Bricklayers', Masons', Plasterers', Plumbers', Painters', Paper-hangers', Gilders', Smiths', Carpenters', and Joiners' Work. By A. C. BEATON, Architect and Surveyor. New and Enlarged Edition. Illus. 1s. 6d.
175. **LOCKWOOD & CO.'S BUILDER'S AND CONTRACTOR'S PRICE BOOK,** with which is incorporated ATCHLEY's and portions of the late G. R. BURNELL's "BUILDER'S PRICE BOOKS," for 1875, published annually, containing the latest Prices of all kinds of Builders' Materials and Labour, and of all Trades connected with Building: with Memoranda and Tables required in making Estimates and taking out Quantities, &c. The whole Revised and Edited by FRANCIS T. W. MILLER, Architect and Surveyor. 3s. 6d.
182. **CARPENTRY AND JOINERY—THE ELEMENTARY PRINCIPLES OF CARPENTRY.** Chiefly composed from the Standard Work of THOMAS TREDGOLD, C.E. With Additions from the Works of the most Recent Authorities, and a TREATISE ON JOINERY by E. WYNDHAM TARN, M.A. Numerous Illustrations. 3s. 6d.
- 182*. **CARPENTRY AND JOINERY. ATLAS** of 35 Plates to accompany the foregoing book. With Descriptive Letterpress. 4to. 6s.
187. **HINTS TO YOUNG ARCHITECTS.** By GEORGE WIGHTWICK. New Edition, enlarged. By G. HUSKISSON GUILLAUME, Architect. With numerous Woodcuts. 3s. 6d.
189. **THE RUDIMENTS OF PRACTICAL BRICKLAYING.** In Six Sections. By ADAM HAMMOND. Illustrated with 68 Woodcuts. 1s. 6d.

CIVIL ENGINEERING, ETC.

13. *CIVIL ENGINEERING*, the Rudiments of; for the Use of Beginners, for Practical Engineers, and for the Army and Navy. By HENRY LAW, C.E. Including a Section on Hydraulic Engineering, by GEORGE K. BURNELL, C.E. 5th Edition, with Notes and Illustrations by ROBERT MALLET, A.M., F.R.S. Illustrated with Plates and Diagrams. 5s.
29. *THE DRAINAGE OF DISTRICTS AND LANDS*. By G. DRYSDALE DEMPSEY, C.E. New Edition, revised and enlarged. Illustrated. 1s. 6d.
30. *THE DRAINAGE OF TOWNS AND BUILDINGS*. By G. DRYSDALE DEMPSEY, C.E. New Edition. Illustrated. 2s. 6d.
* * With "Drainage of Districts and Lands," in *One Vol.*, 3s. 6d.
31. *WELL-DIGGING, BORING, AND PUMP-WORK*. By JOHN GEORGE SWINDELL, Assoc. R.I.B.A. New Edition, revised by G. K. BURNELL, C.E. Illustrated. 1s.
35. *THE BLASTING AND QUARRYING OF STONE*, Rudimentary Treatise on; for Building and other Purposes, with the Constituents and Analyses of Granite, Slate, Limestone, and Sandstone: to which is added some Remarks on the Blowing up of Bridges. By Gen. Sir JOHN BURGOYNE, Bart., K.C.B. Illustrated. 1s. 6d.
43. *TUBULAR AND OTHER IRON GIRDER BRIDGES*. Particularly describing the BRITANNIA and CONWAY TUBULAR BRIDGES. With a Sketch of Iron Bridges, and Illustrations of the Application of Malleable Iron to the Art of Bridge Building. By G. D. DEMPSEY, C.E., Author of "The Practical Railway Engineer," &c., &c. New Edition, with Illustrations. 1s. 6d.
46. *CONSTRUCTING AND REPAIRING COMMON ROADS*, [Papers on the Art of. Containing a Survey of the Metropolitan Roads, by S. HUGHES, C.E.; The Art of Constructing Common Roads, by HENRY LAW, C.E.; Remarks on the Maintenance of Macadamised Roads, by Field-Marshal Sir JOHN F. BURGOYNE, Bart., G.C.B., Royal Engineers, &c., &c. Illustrated. 1s. 6d.
62. *RAILWAY CONSTRUCTION*, Elementary and Practical Instruction on the Science of. By Sir MACDONALD STEPHENSON, C.E., Managing Director of the East India Railway Company. New Edition, revised and enlarged by EDWARD NUGENT, C.E. Plates and numerous Woodcuts. 3s.
- 62*. *RAILWAYS*; their Capital and Dividends. With Statistics of their Working in Great Britain, &c., &c. By E. D. CHATTAWAY. 1s.
* * 62 and 62*, in *One Vol.*, 3s. 6d.
- 80*. *EMBANKING LANDS FROM THE SEA*, the Practice of. Treated as a Means of Profitable Employment for Capital. With Examples and Particulars of actual Embankments, and also Practical Remarks on the Repair of old Sea Walls. By JOHN WIGGINS, F.G.S. New Edition, with Notes by ROBERT MALLET, F.R.S. 2s.
81. *WATER WORKS*, for the Supply of Cities and Towns. With a Description of the Principal Geological Formations of England as influencing Supplies of Water; and Details of Engines and Pumping Machinery for raising Water. By SAMUEL HUGHES, F.G.S., C.E. New Edition, revised and enlarged, with numerous Illustrations. 4s.
- 82*. *GAS WORKS*, and the Practice of Manufacturing and Distributing Coal Gas. By SAMUEL HUGHES, C.E. New Edition, revised by W. RICHARDS, C.E. Illustrated. 3s.
117. *SUBTERRANEAN SURVEYING*; an Elementary and Practical Treatise on. By THOMAS FENWICK. Also the Method of Conducting Subterranean Surveys without the Use of the Magnetic Needle, and other modern Improvements. By THOMAS BAKER, C.E. Illustrated. 2s. 6d.
118. *CIVIL ENGINEERING IN NORTH AMERICA*, a Sketch of. By DAVID STEVENSON, F.R.S.E., &c. Plates and Diagrams. 3s.

Civil Engineering, etc., *continued.*

120. *HYDRAULIC ENGINEERING*, the Rudiments of. By G. R. BURNELL, C.E., F.G.S. Illustrated. 3s.
121. *RIVERS AND TORRENTS*. With the Method of Regulating their Courses and Channels. By Professor PAUL FRISI, F.R.S., of Milan. To which is added, AN ESSAY ON NAVIGABLE CANALS. Translated by Major-General JOHN GARSTIN, of the Bengal Engineers. Plates. 2s. 6d.

MECHANICAL ENGINEERING, ETC.

33. *CRANES*, the Construction of, and other Machinery for Raising Heavy Bodies for the Erection of Buildings, and for Hoisting Goods. By JOSEPH GLYNN, F.R.S., &c. Illustrated. 1s. 6d.
34. *THE STEAM ENGINE*, a Rudimentary Treatise on. By Dr. LARDNER. Illustrated. 1s.
59. *STEAM BOILERS*: Their Construction and Management. By R. ARMSTRONG, C.E. Illustrated. 1s. 6d.
63. *AGRICULTURAL ENGINEERING*: Farm Buildings, Motive Power, Field Machines, Machinery, and Implements. By G. H. ANDREWS, C.E. Illustrated. 3s.
67. *CLOCKS, WATCHES, AND BELLS*, a Rudimentary Treatise on. By Sir EDMUND BECKETT (late EDMUND BECKETT DENISON, LL.D., Q.C.)
- ** *A New, Revised, and considerably Enlarged Edition of the above Standard Treatise, with very numerous Illustrations, is now ready, price 4s. 6d.*
- 77*. *THE ECONOMY OF FUEL*, particularly with Reference to Reverberatory Furnaces for the Manufacture of Iron, and to Steam Boilers. By T. SYMES PRIDEAUX. 1s. 6d.
82. *THE POWER OF WATER*, as applied to drive Flour Mills, and to give motion to Turbines and other Hydrostatic Engines. By JOSEPH GLYNN, F.R.S., &c. New Edition, Illustrated. 2s.
98. *PRACTICAL MECHANISM*, the Elements of; and Machine Tools. By T. BAKER, C.E. With Remarks on Tools and Machinery, by J. NASMYTH, C.E. Plates. 2s. 6d.
114. *MACHINERY*, Elementary Principles of, in its Construction and Working. Illustrated by numerous Examples of Modern Machinery for different Branches of Manufacture. By C. D. ABEL, C.E. 1s. 6d.
115. *ATLAS OF PLATES*. Illustrating the above Treatise. By C. D. ABEL, C.E. 7s. 6d.
125. *THE COMBUSTION OF COAL AND THE PREVENTION OF SMOKE*, Chemically and Practically Considered. With an Appendix. By C. WYE WILLIAMS, A.I.C.E. Plates. 3s.
139. *THE STEAM ENGINE*, a Treatise on the Mathematical Theory of, with Rules at length, and Examples for the Use of Practical Men. By T. BAKER, C.E. Illustrated. 1s.
162. *THE BRASS FOUNDER'S MANUAL*; Instructions for Modelling, Pattern-Making, Moulding, Turning, Filing, Burnishing, Bronzing, &c. With copious Receipts, numerous Tables, and Notes on Prime Costs and Estimates. By WALTER GRAHAM. Illustrated. 2s. 6d.
164. *MODERN WORKSHOP PRACTICE*, as applied to Marine, Land, and Locomotive Engines, Floating Docks, Dredging Machines, Bridges, Cranes, Ship-building, &c., &c. By J. G. WINTON. Illustrated. 3s.
165. *IRON AND HEAT*, exhibiting the Principles concerned in the Construction of Iron Beams, Pillars, and Bridge Girders, and the Action of Heat in the Smelting Furnace. By J. ARMOUR, C.E. Numerous Woodcuts. 2s. 6d.

Mechanical Engineering, etc., continued.

106. **POWER IN MOTION:** Horse-Power, Motion, Toothed-Wheel Gearing, Long and Short Driving Bands, Angular Forces. By JAMES ARMOUR, C.E. With 73 Diagrams. 2s. 6d.
167. **THE APPLICATION OF IRON TO THE CONSTRUCTION OF BRIDGES, GIRDERS, ROOFS, AND OTHER WORKS.** Showing the Principles upon which such Structures are designed, and their Practical Application. By FRANCIS CAMPIN, C.E. Numerous Woodcuts. 2s.
171. **THE WORKMAN'S MANUAL OF ENGINEERING DRAWING.** By JOHN MAXTON, Engineer, Instructor in Engineering Drawing, Royal School of Naval Architecture and Marine Engineering, South Kensington. Illustrated with 7 Plates and nearly 350 Woodcuts. 3s. 6d.

SHIPBUILDING, NAVIGATION, MARINE ENGINEERING, ETC.

51. **NAVAL ARCHITECTURE**, the Rudiments of; or, an Exposition of the Elementary Principles of the Science, and their Practical Application to Naval Construction. Compiled for the Use of Beginners. By JAMES PEAKE, School of Naval Architecture, H.M. Dockyard, Portsmouth. Fourth Edition, corrected, with Plates and Diagrams. 3s. 6d.
- 53*. **SHIPS FOR OCEAN AND RIVER SERVICE**, Elementary and Practical Principles of the Construction of. By HAKON A. SOMMERFELDT, Surveyor of the Royal Norwegian Navy. With an Appendix. 1s.
- 53**. **AN ATLAS OF ENGRAVINGS** to Illustrate the above. Twelve large folding plates. Royal 4to, cloth. 7s. 6d.
54. **MASTING, MAST-MAKING, AND RIGGING OF SHIPS**, Rudimentary Treatise on. Also Tables of Spars, Rigging, Blocks; Chain, Wire, and Hemp Ropes, &c., relative to every class of vessels. Together with an Appendix of Dimensions of Masts and Yards of the Royal Navy of Great Britain and Ireland. By ROBERT KIPPING, N.A. Thirteenth Edition. Illustrated. 1s. 6d.
- 54*. **IRON SHIP-BUILDING.** With Practical Examples and Details for the Use of Ship Owners and Ship Builders. By JOHN GRANTHAM, Consulting Engineer and Naval Architect. Fifth Edition, with important Additions. 4s.
- 54**. **AN ATLAS OF FORTY PLATES** to Illustrate the above. Fifth Edition. Including the latest Examples, such as H.M. Steam Frigates "Warrior," "Hercules," "Bellerophon;" H.M. Troop Ship "Serapis," Iron Floating Dock, &c., &c. 4to, boards. 38s.
55. **THE SAILOR'S SEA BOOK:** A Rudimentary Treatise on Navigation. I. How to Keep the Log and Work it off. II. On Finding the Latitude and Longitude. By JAMES GREENWOOD, B.A., of Jesus College, Cambridge. To which are added, Directions for Great Circle Sailing; an Essay on the Law of Storms and Variable Winds; and Explanations of Terms used in Ship-building. Ninth Edition, with several Engravings and Coloured Illustrations of the Flags of Maritime Nations. 2s.
80. **MARINE ENGINES, AND STEAM VESSELS**, a Treatise on. Together with Practical Remarks on the Screw and Propelling Power, as used in the Royal and Merchant Navy. By ROBERT MURRAY, C.E., Engineer-Surveyor to the Board of Trade. With a Glossary of Technical Terms, and their Equivalents in French, German, and Spanish. Fifth Edition, revised and enlarged. Illustrated. 3s.
- 83bis. **THE FORMS OF SHIPS AND BOATS:** Hints, Experimentally Derived, on some of the Principles regulating Ship-building. By W. BLAND. Sixth Edition, revised, with numerous Illustrations and Models. 1s. 6d.
99. **NAVIGATION AND NAUTICAL ASTRONOMY**, in Theory and Practice. With Attempts to facilitate the Finding of the Time and the Longitude at Sea. By J. R. YOUNG, formerly Professor of Mathematics in Belfast College. Illustrated. 2s. 6d.

Shipbuilding, Navigation, etc., continued.

- 100*. **TABLES** intended to facilitate the Operations of Navigation and Nautical Astronomy, as an Accompaniment to the above Book. By J. R. YOUNG. 1s. 6d.
106. **SHIPS' ANCHORS**, a Treatise on. By GEORGE COTSELL, N.A. Illustrated. 1s. 6d.
149. **SAILS AND SAIL-MAKING**, an Elementary Treatise on. With Draughting, and the Centre of Effort of the Sails. Also, Weights and Sizes of Ropes; Masting, Rigging, and Sails of Steam Vessels, &c., &c. Ninth Edition, enlarged, with an Appendix. By ROBERT KIPPING, N.A., Sailmaker, Quayside, Newcastle. Illustrated. 2s. 6d.
155. **THE ENGINEER'S GUIDE TO THE ROYAL AND MERCANTILE NAVIES**. By a PRACTICAL ENGINEER. Revised by D. F. M'CARTHY, late of the Ordnance Survey Office, Southampton. 3s.

PHYSICAL SCIENCE, NATURAL PHILOSOPHY, ETC.

1. **CHEMISTRY**, for the Use of Beginners. By Professor GEORGE FOWNES, F.R.S. With an Appendix, on the Application of Chemistry to Agriculture. 1s.
2. **NATURAL PHILOSOPHY**, Introduction to the Study of; for the Use of Beginners. By C. TOMLINSON, Lecturer on Natural Science in King's College School, London. Woodcuts. 1s. 6d.
4. **MINERALOGY**, Rudiments of; a concise View of the Properties of Minerals. By A. RAMSEY, Jun. Woodcuts and Steel Plates. 3s.
5. **MECHANICS**, Rudimentary Treatise on; Being a concise Exposition of the General Principles of Mechanical Science, and their Applications. By CHARLES TOMLINSON, Lecturer on Natural Science in King's College School, London. Illustrated. 1s. 6d.
7. **ELECTRICITY**; showing the General Principles of Electrical Science, and the purposes to which it has been applied. By Sir W. SNOW HARRIS, F.R.S., &c. With considerable Additions by R. SABINE, C.E., F.S.A. Woodcuts. 1s. 6d.
- 7*. **GALVANISM**, Rudimentary Treatise on, and the General Principles of Animal and Voltaic Electricity. By Sir W. SNOW HARRIS. New Edition, revised, with considerable Additions, by ROBERT SABINE, C.E., F.S.A. Woodcuts. 1s. 6d.
8. **MAGNETISM**; being a concise Exposition of the General Principles of Magnetical Science, and the Purposes to which it has been applied. By Sir W. SNOW HARRIS. New Edition, revised and enlarged by H. M. NOAD, Ph.D., Vice-President of the Chemical Society, Author of "A Manual of Electricity," &c., &c. With 165 Woodcuts. 3s. 6d.
11. **THE ELECTRIC TELEGRAPH**; its History and Progress; with Descriptions of some of the Apparatus. By R. SABINE, C.E., F.S.A., &c. Woodcuts. 3s.
12. **PNEUMATICS**, for the Use of Beginners. By CHARLES TOMLINSON. Illustrated. 1s. 6d.
72. **MANUAL OF THE MOLLUSCA**; a Treatise on Recent and Fossil Shells. By Dr. S. P. WOODWARD, A.L.S. With Appendix by RALPH TATE, A.L.S., F.G.S. With numerous Plates and 300 Woodcuts, 6s. 6d. Cloth boards, 7s. 6d.
- 79**. **PHOTOGRAPHY**, Popular Treatise on; with a Description of the Stereoscope, &c. Translated from the French of D. VAN MONCKHOVEN, by W. H. THORNTON, Ph.D. Woodcuts. 1s. 6d.
96. **ASTRONOMY**. By the Rev. R. MAIN, M.A., F.R.S., &c. New and enlarged Edition, with an Appendix on "Spectrum Analysis." Woodcuts. 1s. 6d.

Physical Science, Natural Philosophy, etc., *continued*.

97. *STATICS AND DYNAMICS*, the Principles and Practice of; embracing also a clear development of Hydrostatics, Hydrodynamics, and Central Forces. By T. BAKER, C.E. 1s. 6d.
138. *TELEGRAPH*, Handbook of the; a Manual of Telegraphy, Telegraph Clerks' Remembrancer, and Guide to Candidates for Employment in the Telegraph Service. By R. BOND. Fourth Edition, revised and enlarged; to which is appended, QUESTIONS on MAGNETISM, ELECTRICITY, and PRACTICAL TELEGRAPHY, for the Use of Students, by W. MCGREGOR, First Assistant Superintendent, Indian Gov. Telegraphs. Woodcuts. 3s.
143. *EXPERIMENTAL ESSAYS*. By CHARLES TOMLINSON. I. On the Motions of Camphor on Water. II. On the Motion of Camphor towards the Light. III. History of the Modern Theory of Dew. Woodcuts. 1s.
173. *PHYSICAL GEOLOGY*, partly based on Major-General PORTLOCK's "Rudiments of Geology." By RALPH TATE, A.L.S., &c. Numerous Woodcuts. 2s.
174. *HISTORICAL GEOLOGY*, partly based on Major-General PORTLOCK's "Rudiments." By RALPH TATE, A.L.S., &c. Woodcuts. 2s. 6d.
173. *RUDIMENTARY TREATISE ON GEOLOGY*, Physical and Historical. Partly based on Major-General PORTLOCK's "Rudiments of Geology." By RALPH TATE, A.L.S., F.G.S., &c., &c. Numerous Illustrations. In One Volume. 4s. 6d.
174. *ANIMAL PHYSICS*, Handbook of. By DIONYSIUS LARDNER, D.C.L., formerly Professor of Natural Philosophy and Astronomy in University College, London. With 520 Illustrations. In One Volume, cloth boards. 7s. 6d.
183. *ANIMAL PHYSICS*. By Dr. LARDNER. Part I., Chapter I—VII. 4s.
184. *ANIMAL PHYSICS*. By Dr. LARDNER. Part II. Chapter VIII—XVIII. 3s.

** Sold also in Two Parts, as follows :—

MINING, METALLURGY, ETC.

117. *SUBTERRANEAN SURVEYING*, Elementary and Practical Treatise on, with and without the Magnetic Needle. By THOMAS FENWICK, Surveyor of Mines, and THOMAS BAKER, C.E. Illustrated. 2s. 6d.
133. *METALLURGY OF COPPER*; an Introduction to the Methods of Seeking, Mining, and Assaying Copper, and Manufacturing its Alloys. By ROBERT H. LAMBORN, Ph.D. Woodcuts. 2s.
134. *METALLURGY OF SILVER AND LEAD*. A Description of the Ores; their Assay and Treatment, and valuable Constituents. By Dr. R. H. LAMBORN. Woodcuts. 2s.
135. *ELECTRO-METALLURGY*; Practically Treated. By ALEXANDER WATT, F.R.S.S.A. New Edition. Woodcuts. 2s.
172. *MINING TOOLS*, Manual of. For the Use of Mine Managers, Agents, Students, &c. Comprising Observations on the Materials from, and Processes by which, they are manufactured; their Special Uses, Applications, Qualities, and Efficiency. By WILLIAM MORGANS, Lecturer on Mining at the Bristol School of Mines. 2s. 6d.
- 172*. *MINING TOOLS, ATLAS* of Engravings to Illustrate the above, containing 235 Illustrations of Mining Tools, drawn to Scale. 4to. 4s. 6d.
176. *METALLURGY OF IRON*, a Treatise on the. Containing Outlines of the History of Iron Manufacture, Methods of Assay, and Analyses of Iron Ores, Processes of Manufacture of Iron and Steel, &c. By H. BAUERMAN, F.G.S., Associate of the Royal School of Mines. Fourth Edition, revised and enlarged, with numerous Illustrations. 4s. 6d.

Mining, Metallurgy, etc., continued.

180. **COAL AND COAL MINING: A Rudimentary Treatise on.** By WARINGTON W. SMYTH, M.A., F.R.S., &c., Chief Inspector of the Mines of the Crown and of the Duchy of Cornwall. Second Edition, revised and corrected. With numerous Illustrations. 3s. 6d.

EMIGRATION.

154. **GENERAL HINTS TO EMIGRANTS.** Containing Notices of the various Fields for Emigration. With Hints on Preparation for Emigrating, Outfits, &c., &c. With Directions and Recipes useful to the Emigrant. With a Map of the World. 2s.
157. **THE EMIGRANT'S GUIDE TO NATAL.** By ROBERT JAMES MANN, F.R.A.S., F.M.S. Second Edition, carefully corrected to the present Date. Map. 2s.
159. **THE EMIGRANT'S GUIDE TO AUSTRALIA, New South Wales, Western Australia, South Australia, Victoria, and Queensland.** By the Rev. JAMES BAIRD, B.A. Map. 2s. 6d.
160. **THE EMIGRANT'S GUIDE TO TASMANIA and NEW ZEALAND.** By the Rev. JAMES BAIRD, B.A. With a Map. 2s.
- 159 & 160. **THE EMIGRANT'S GUIDE TO AUSTRALASIA.** By the Rev. J. BAIRD, B.A. Comprising the above two volumes, 12mo, cloth boards. With Maps of Australia and New Zealand. 5s.

AGRICULTURE.

29. **THE DRAINAGE OF DISTRICTS AND LANDS.** By G. DRYSDALE DEMPSEY, C.E. Illustrated. 1s. 6d.
*• With "Drainage of Towns and Buildings," in One Vol., 3s.
63. **AGRICULTURAL ENGINEERING: Farm Buildings, Motive Powers and Machinery of the Steading, Field Machines, and Implements.** By G. H. ANDREWS, C.E. Illustrated. 3s.
66. **CLAY LANDS AND LOAMY SOILS.** By Professor DONALDSON. 1s.
131. **MILLER'S, MERCHANT'S, AND FARMER'S READY RECKONER,** for ascertaining at sight the value of any quantity of Corn, from One Bushel to One Hundred Quarters, at any given price, from 6s 1 to 6s per quarter. Together with the approximate values of Millstones and Millwork, &c. 1s.
140. **SOILS, MANURES, AND CROPS** (Vol. 1. OUTLINES OF MODERN FARMING.) By R. SCOTT BURN. Woodcuts. 2s.
141. **FARMING AND FARMING ECONOMY,** Notes, Historical and Practical on. (Vol. 2. OUTLINES OF MODERN FARMING.) By R. SCOTT BURN. Woodcuts. 3s.
142. **STOCK; CATTLE, SHEEP, AND HORSES.** (Vol. 3. OUTLINES OF MODERN FARMING.) By R. SCOTT BURN. Woodcuts. 2s. 6d.
145. **DAIRY, PIGS, AND POULTRY,** Management of the. By R. SCOTT BURN. With Notes on the Diseases of Stock. (Vol. 4. OUTLINES OF MODERN FARMING.) Woodcuts. 2s.
146. **UTILIZATION OF SEWAGE, IRRIGATION, AND RECLAMATION OF WASTE LAND.** (Vol. 5. OUTLINES OF MODERN FARMING.) By R. SCOTT BURN. Woodcuts. 2s. 6d.
*• Nos. 140-1-2-5-6, in One Vol., handsomely half-bound, entitled "OUTLINES OF MODERN FARMING." By ROBERT SCOTT BURN. Price 12s.
177. **FRUIT TREES; The Scientific and Profitable Culture of.** From the French of DU BREUIL, Revised by GEO. GLENNY. 187 Woodcuts. 3s. 6d.

FINE ARTS.

20. *PERSPECTIVE FOR BEGINNERS*. Adapted to Young Students and Amateurs in Architecture, Painting, &c. By GEORGE PYNE, Artist. Woodcuts. 2s.
27. *A GRAMMAR OF COLOURING*, applicable to House Painting, Decorative Architecture, and the Arts, for the Use of Practical Painters and Decorators. By GEORGE FIELD, Author of "Chromatics; or, The Analysis, Harmony, and Philosophy of Colours," &c. Enlarged by ELLIS A. DAVIDSON. Coloured Illustrations. 2s. 6d.
40. *GLASS STAINING*; or, Painting on Glass, The Art of. Comprising Directions for Preparing the Pigments and Fluxes, laying them upon the Glass, and Firing or Burning in the Colours. From the German of Dr. GESSERT. To which is added, an Appendix on THE ART OF ENAMELLING, &c. 1s.
41. *PAINTING ON GLASS*, The Art of. From the German of EMANUEL OTTO FROMBERG. 1s.
69. *MUSIC*, A Rudimentary and Practical Treatise on. With numerous Examples. By CHARLES CHILD SPENCER. 2s.
71. *PIANOFORTE*, The Art of Playing the. With numerous Exercises and Lessons. Written and Selected from the Best Masters, by CHARLES CHILD SPENCER. 1s. 6d.
181. *PAINTING POPULARLY EXPLAINED*, including Fresco, Oil, Mosaic, Water Colour, Water-Glass, Tempera, Encaustic, Miniature, Painting on Ivory, Vellum, Pottery, Enamel, Glass, &c. With Historical Sketches of the Progress of the Art by THOMAS JOHN GULLICK, assisted by JOHN TIMBS, F.S.A. Third Edition, revised and enlarged, with Frontispiece and Vignette. 5s.

ARITHMETIC, GEOMETRY, MATHEMATICS,
ETC.

32. *MATHEMATICAL INSTRUMENTS*, a Treatise on; in which their Construction, and the Methods of Testing, Adjusting, and Using them are concisely Explained. By J. F. HEATHER, M.A., of the Royal Military Academy, Woolwich. Original Edition, in 1 vol., Illustrated. 1s. 6d.
- * * In ordering the above, be careful to say, "Original Edition," or give the number in the Series (32) to distinguish it from the Enlarged Edition in 3 vols. (Nos. 168-9-70).
60. *LAND AND ENGINEERING SURVEYING*, a Treatise on; with all the Modern Improvements. Arranged for the Use of Schools and Private Students; also for Practical Land Surveyors and Engineers. By T. BAKER, C.E. New Edition, revised by EDWARD NUGENT, C.E. Illustrated with Plates and Diagrams. 2s.
61. *READY RECKONER FOR THE ADMEASUREMENT OF LAND*. By ABRAHAM ARMAN, Schoolmaster, Thurleigh, Beds. To which is added a Table, showing the Price of Work, from 2s. 6d. to £1 per acre, and Tables for the Valuation of Land, from 1s. to £1,000 per acre, and from one pole to two thousand acres in extent, &c., &c. 1s. 6d.
76. *DESCRIPTIVE GEOMETRY*, an Elementary Treatise on; with a Theory of Shadows and of Perspective, extracted from the French of G. MONGE. To which is added, a description of the Principles and Practice of Isometrical Projection; the whole being intended as an introduction to the Application of Descriptive Geometry to various branches of the Arts. By J. F. HEATHER, M.A. Illustrated with 14 Plates. 2s.
178. *PRACTICAL PLANE GEOMETRY*: giving the Simplest Modes of Constructing Figures contained in one Plane and Geometrical Construction of the Ground. By J. F. HEATHER, M.A. With 215 Woodcuts. 2s.
179. *PROJECTION*: Orthographic, Topographic, and Perspective: giving the various Modes of Delineating Solid Forms by Constructions on a Single Plane Surface. By J. F. HEATHER, M.A. [In preparation.]
- * * The above three volumes will form a COMPLETE ELEMENTARY COURSE OF MATHEMATICAL DRAWING.

Arithmetic, Geometry, Mathematics, etc., continued.

83. **COMMERCIAL BOOK-KEEPING.** With Commercial Phrases and Forms in English, French, Italian, and German. By JAMES HADDON, M.A., Arithmetical Master of King's College School, London. 1s.
84. **ARITHMETIC,** a Rudimentary Treatise on: with full Explanations of its Theoretical Principles, and numerous Examples for Practice. For the Use of Schools and for Self-Instruction. By J. R. YOUNG, late Professor of Mathematics in Belfast College. New Edition, with Index. 1s. 6d.
- 84.* A KEY to the above, containing Solutions in full to the Exercises, together with Comments, Explanations, and Improved Processes, for the Use of Teachers and Unassisted Learners. By J. R. YOUNG. 1s. 6d.
85. **EQUATIONAL ARITHMETIC,** applied to Questions of Interest, Annuities, Life Assurance, and General Commerce; with various Tables by which all Calculations may be greatly facilitated. By W. HIRSLEY. In Two Parts, 1s. each; or in One Vol. 2s.
86. **ALGEBRA,** the Elements of. By JAMES HADDON, M.A., Second Mathematical Master of King's College School. With Appendix, containing miscellaneous Investigations, and a Collection of Problems in various parts of Algebra. 2s.
- 86.* A KEY and COMPANION to the above Book, forming an extensive repository of Solved Examples and Problems in Illustration of the various Expedients necessary in Algebraical Operations. Especially adapted for Self-Instruction. By J. R. YOUNG. 1s. 6d.
88. **EUCLID, THE ELEMENTS OF:** with many additional Propositions and Explanatory Notes: to which is prefixed, an Introductory Essay on Logic. By HENRY LAW, C.E. 2s. 6d.
- *.* Sold also separately, viz. :—
88. EUCLID, The First Three Books. By HENRY LAW, C.E. 1s.
89. EUCLID, Books 4, 5, 6, 11, 12. By HENRY LAW, C.E. 1s. 6d.
90. **ANALYTICAL GEOMETRY AND CONICAL SECTIONS** a Rudimentary Treatise on. By JAMES HANN, late Mathematical Master of King's College School, London. A New Edition, re-written and enlarged by J. R. YOUNG, formerly Professor of Mathematics at Belfast College. 2s.
91. **PLANE TRIGONOMETRY,** the Elements of. By JAMES HANN, formerly Mathematical Master of King's College, London. 1s.
92. **SPHERICAL TRIGONOMETRY,** the Elements of. By JAMES HANN. Revised by CHARLES H. DOWLING, C.E. 1s.
- *.* Or with "The Elements of Plane Trigonometry," in One Volume, 2s.
93. **MENSURATION AND MEASURING,** for Students and Practical Use. With the Mensuration and Levelling of Land for the Purposes of Modern Engineering. By T. BAKER, C.E. New Edition, with Correction and Additions by E. NUGENT, C.E. Illustrated. 1s. 6d.
94. **LOGARITHMS,** a Treatise on; with Mathematical Tables for facilitating Astronomical, Nautical, Trigonometrical, and Logarithmic Calculations; Tables of Natural Sines and Tangents and Natural Cosines. By HENRY LAW, C.E. Illustrated. 2s. 6d.
- 101*. **MEASURES, WEIGHTS, AND MONEYS OF ALL NATIONS,** and an Analysis of the Christian, Hebrew, and Mahometan Calendars. By W. S. B. WOOLHOUSE, F.R.A.S., &c. 1s. 6d.
102. **INTEGRAL CALCULUS,** Rudimentary Treatise on the. By HOMERSHAM COX, B.A. Illustrated. 1s.
103. **INTEGRAL CALCULUS,** Examples on the. By JAMES HANN, late of King's College, London. Illustrated. 1s.
101. **DIFFERENTIAL CALCULUS,** Examples of the. By W. S. B. WOOLHOUSE, F.R.A.S., &c. 1s. 6d.
104. **DIFFERENTIAL CALCULUS,** Examples and Solutions of the. By JAMES HADDON, M.A. 1s.

Arithmetic, Geometry, Mathematics, etc., *continued.*

105. **MNEMONICAL LESSONS.**—GEOMETRY, ALGEBRA, AND TRIGONOMETRY, in Easy Mnemonical Lessons. By the Rev. THOMAS PENYNGTON KIRKMAN, M.A. 1s. 6d.
136. **ARITHMETIC**, Rudimentary, for the Use of Schools and Self-Instruction. By JAMES HADDON, M.A. Revised by ABRAHAM ARMAN. 1s. 6d.
137. **A KEY TO HADDON'S RUDIMENTARY ARITHMETIC.** By A. ARMAN. 1s. 6d.
147. **ARITHMETIC, STEPPING-STONE TO;** Being a Complete Course of Exercises in the First Four Rules (Simple and Compound), on an entirely new principle. For the Use of Elementary Schools of every Grade. Intended as an Introduction to the more extended works on Arithmetic. By ABRAHAM ARMAN. 1s.
148. **A KEY TO STEPPING-STONE TO ARITHMETIC.** By A. ARMAN. 1s.
158. **THE SLIDE RULE, AND HOW TO USE IT;** Containing full, easy, and simple Instructions to perform all Business Calculations with unexampled rapidity and accuracy. By CHARLES HOARE, C.E. With a Slide Rule in tuck of cover. 3s.
168. **DRAWING AND MEASURING INSTRUMENTS.** Including—I. Instruments employed in Geometrical and Mechanical Drawing, and in the Construction, Copying, and Measurement of Maps and Plans. II. Instruments Used for the purposes of Accurate Measurement, and for Arithmetical Computations. By J. F. HEATHER, M.A., late of the Royal Military Academy, Woolwich, Author of "Descriptive Geometry," &c., &c. Illustrated. 1s. 6d.
169. **OPTICAL INSTRUMENTS.** Including (more especially) Telescopes, Microscopes, and Apparatus for producing copies of Maps and Plans by Photography. By J. F. HEATHER, M.A. Illustrated. 1s. 6d.
170. **SURVEYING AND ASTRONOMICAL INSTRUMENTS.** Including—I. Instruments Used for Determining the Geometrical Features of a portion of Ground. II. Instruments Employed in Astronomical Observations. By J. F. HEATHER, M.A. Illustrated. 1s. 6d.
- *• The above three volumes form an enlargement of the Author's original work, "*Mathematical Instruments: their Construction, Adjustment, Testing, and Use,*" the Eleventh Edition of which is on sale, price 1s. 6d. (See No. 32 in the Series.)
168. } **MATHEMATICAL INSTRUMENTS.** By J. F. HEATHER,
169. } M.A. Enlarged Edition, for the most part entirely re-written. The 3 Parts as
170. } above, in One thick Volume. With numerous Illustrations. Cloth boards. 5s.

LEGAL TREATISES.

50. **THE LAW OF CONTRACTS FOR WORKS AND SERVICES.** By DAVID GIBBONS. Third Edition, Enlarged. 3s.
107. **COUNTY COURT GUIDE,** Plain Guide for Suitors in the County Court. By a BARRISTER. 1s. 6d.
108. **THE METROPOLIS LOCAL MANAGEMENT ACT,** 18th and 19th Vict., c. 120; 19th and 20th Vict., c. 112; 21st and 22nd Vict., c. 104; 24th and 25th Vict., c. 61; also, the last Pauper Removal Act., and the Parochial Assessment Act. 1s. 6d.
- 108*. **THE METROPOLIS LOCAL MANAGEMENT AMENDMENT ACT,** 1862, 25th and 26th Vict., c. 120. Notes and an Index. 1s.
- *• With the Local Management Act, in One Volume, 2s. 6d.
151. **A HANDY BOOK ON THE LAW OF FRIENDLY, INDUSTRIAL & PROVIDENT BUILDING & LOAN SOCIETIES.** With copious Notes. By NATHANIEL WHITE, of H.M. Civil Service. 1s.
163. **THE LAW OF PATENTS FOR INVENTIONS;** and on the Protection of Designs and Trade Marks. By F. W. CAMPIN, Barrister-at-Law. 2s.

MISCELLANEOUS VOLUMES.

36. *A DICTIONARY OF TERMS used in ARCHITECTURE, BUILDING, ENGINEERING, MINING, METALLURGY, ARCHÆOLOGY, the FINE ARTS, &c.* With Explanatory Observations on various Subjects connected with Applied Science and Art. By JOHN WEALE. Fourth Edition, with numerous Additions. Edited by ROBERT HUNT, F.R.S., Keeper of Mining Records, Editor of Ure's "Dictionary of Arts, Manufactures, and Mines." Numerous Illustrations. 5s.
112. *MANUAL OF DOMESTIC MEDICINE.* Describing the Symptoms, Causes, and Treatment of the most common Medical and Surgical Affections. By R. GOODING, B.A., M.B.. The whole intended as a Family Guide in all Cases of Accident and Emergency. 2s.
- 112*. *MANAGEMENT OF HEALTH.* A Manual of Home and Personal Hygiene. Being Practical Hints on Air, Light, and Ventilation; Exercise, Diet, and Clothing; Rest, Sleep, and Mental Discipline; Bathing and Therapeutics. By the Rev. JAMES BAIRD, B.A. 1s.
113. *FIELD ARTILLERY ON SERVICE,* on the Use of. With especial Reference to that of an Army Corps. For Officers of all Arms. By TAUBERT, Captain, Prussian Artillery. Translated from the German by Lieut.-Col. HENRY HAMILTON MAXWELL, Bengal Artillery. 1s. 6d.
- 113*. *SWORDS, AND OTHER ARMS* used for Cutting and Thrusting, Memoir on. By Colonel MAREY. Translated from the French by Colonel H. H. MAXWELL. With Notes and Plates. 1s.
150. *LOGIC,* Pure and Applied. By S. H. EMMENS. Third Edition. 1s. 6d.
152. *PRACTICAL HINTS FOR INVESTING MONEY.* With an Explanation of the Mode of Transacting Business on the Stock Exchange. By FRANCIS PLAYFORD, Sworn Broker. 1s.
153. *SELECTIONS FROM LOCKE'S ESSAYS ON THE HUMAN UNDERSTANDING.* With Notes by S. H. EMMENS. 2s.

EDUCATIONAL AND CLASSICAL SERIES.

HISTORY.

1. *England, Outlines of the History of;* more especially with reference to the Origin and Progress of the English Constitution. A Text Book for Schools and Colleges. By WILLIAM DOUGLAS HAMILTON, F.S.A., of Her Majesty's Public Record Office. Fourth Edition, revised and brought down to 1872. Maps and Woodcuts. 5s.; cloth boards, 6s. Also in Five Parts, 1s. each.
5. *Greece, Outlines of the History of;* in connection with the Rise of the Arts and Civilization in Europe. By W. DOUGLAS HAMILTON, of University College, London, and EDWARD LEVIEN, M.A., of Balliol College, Oxford. 2s. 6d.; cloth boards, 3s. 6d.
7. *Rome, Outlines of the History of;* From the Earliest Period to the Christian Era and the Commencement of the Decline of the Empire. By EDWARD LEVIEN, of Balliol College, Oxford. Map, 2s. 6d.; cl. bds. 3s. 6d.
9. *Chronology of History, Art, Literature, and Progress,* from the Creation of the World to the Conclusion of the Franco-German War. The Continuation by W. D. HAMILTON, F.S.A., of Her Majesty's Record Office. 3s.; cloth boards, 3s. 6d.
50. *Dates and Events in English History,* for the use of Candidates in Public and Private Examinations. By the Rev. EDGAR RAND, B.A. 1s.

ENGLISH LANGUAGE AND MISCELLANEOUS.

11. **Grammar of the English Tongue, Spoken and Written.** With an Introduction to the Study of Comparative Philology. By HYDE CLARKE, D.C.L. Third Edition. 1s.
- 11*. **Philology: Handbook of the Comparative Philology of English,** Anglo-Saxon, Frisian, Flemish or Dutch, Low or Platt Dutch, High Dutch or German, Danish, Swedish, Icelandic, Latin, Italian, French, Spanish, and Portuguese Tongues. By HYDE CLARKE, D.C.L. 1s.
12. **Dictionary of the English Language, as Spoken and Written.** Containing above 100,000 Words. By HYDE CLARKE, D.C.L. 3s. 6d.; cloth boards, 4s. 6d.; complete with the GRAMMAR, cloth bds., 5s. 6d.
48. **Composition and Punctuation, familiarly Explained** for those who have neglected the Study of Grammar. By AUSTIN BRENNAN. 16th Edition. 1s.
49. **Derivative Spelling-Book: Giving the Origin of Every Word** from the Greek, Latin, Saxon, German, Teutonic, Dutch, French, Spanish, and other Languages; with their present Acceptation and Pronunciation. By J. ROWBOTHAM, F.R.A.S. Improved Edition. 1s. 6d.
51. **The Art of Extempore Speaking: Hints for the Pulpit, the Senate, and the Bar.** By M. BAUTAIN, Vicar-General and Professor at the Sorbonne. Translated from the French. Fifth Edition, carefully corrected. 2s. 6d.
52. **Mining and Quarrying, with the Sciences connected therewith.** First Book of, for Schools. By J. H. COLLINS, F.G.S., Lecturer to the Miners' Association of Cornwall and Devon. 1s. 6d.
53. **Places and Facts in Political and Physical Geography,** for Candidates in Public and Private Examinations. By the Rev. EDGAR RAND, B.A. 1s.
54. **Analytical Chemistry, Qualitative and Quantitative, a Course of.** To which is prefixed, a Brief Treatise upon Modern Chemical Nomenclature and Notation. By WM. W. PINK, Practical Chemist, &c., and GEORGE E. WEBSTER, Lecturer on Metallurgy and the Applied Sciences, Nottingham. 2s.

THE SCHOOL MANAGERS' SERIES OF READING BOOKS,

Adapted to the Requirements of the New Code. Edited by the Rev. A. R. GRANT, Rector of Hitcham, and Honorary Canon of Ely; formerly H.M. Inspector of Schools.

	<i>s. d.</i>		<i>s. d.</i>
INTRODUCTORY PRIMER . . .	0 3	THIRD STANDARD . . .	1 0
FIRST STANDARD . . .	0 6	FOURTH " . . .	1 2
SECOND " . . .	0 10	FIFTH " . . .	1 6

* * * *A Sixth Standard in Preparation.*

LESSONS FROM THE BIBLE. Part I. Old Testament. 1s.

LESSONS FROM THE BIBLE. Part II. New Testament, to which is added THE GEOGRAPHY OF THE BIBLE, for very young Children. By Rev. C. THORNTON FORSTER. 1s. 2d. * * * Or the Two Parts in One Volume. 2s.

FRENCH.

24. **French Grammar.** With Complete and Concise Rules on the Genders of French Nouns. By G. L. STRAUSS, Ph.D. 1s.
25. **French-English Dictionary.** Comprising a large number of New Terms used in Engineering, Mining, on Railways, &c. By ALFRED ELWES. 1s. 6d.

7, STATIONERS' HALL COURT, LUDGATE HILL, E.C.

French, continued.

26. **English-French Dictionary.** By ALFRED ELWES. 2s.
 25,26. **French Dictionary** (as above). Complete, in One Vol., 3s.; cloth boards, 3s. 6d. *.* Or with the GRAMMAR, cloth boards, 4s. 6d.
 47. **French and English Phrase Book:** Containing Introductory Lessons, with Translations, for the convenience of Students; several Vocabularies of Words, a Collection of suitable Phrases, and Easy Familiar Dialogues. 1s.

GERMAN.

39. **German Grammar.** Adapted for English Students, from Heyse's Theoretical and Practical Grammar, by Dr. G. L. STRAUSS. 1s.
 40. **German Reader: A Series of Extracts,** carefully culled from the most approved Authors of Germany; with Notes, Philological and Explanatory. By G. L. STRAUSS, Ph.D. 1s.
 41. **German Trilots Dictionary.** By NICHOLAS ESTERHAZY, S. A. HAMILTON. Part I. English-German-French. 1s.
 42. **German Trilots Dictionary.** Part II. German-French-English. 1s.
 43. **German Trilots Dictionary.** Part III. French-German-English. 1s.
 41-43. **German Trilots Dictionary** (as above), in One Vol., 3s.; cloth boards, 4s. *.* Or with the GERMAN GRAMMAR, cloth boards, 5s.

ITALIAN.

27. **Italian Grammar,** arranged in Twenty Lessons, with a Course of Exercises. By ALFRED ELWES. 1s.
 28. **Italian Trilots Dictionary,** wherein the Genders of all the Italian and French Nouns are carefully noted down. By ALFRED ELWES. Vol. 1. Italian-English-French. 2s.
 30. **Italian Trilots Dictionary.** By A. ELWES. Vol. 2. English-French-Italian. 2s.
 32. **Italian Trilots Dictionary.** By ALFRED ELWES. Vol. 3. French-Italian-English. 2s.
 28,30, **Italian Trilots Dictionary** (as above). In One Vol., 6s.; 32. cloth boards, 7s. 6d. *.* Or with the ITALIAN GRAMMAR, cloth bds., 8s. 6d.

SPANISH.

34. **Spanish Grammar,** in a Simple and Practical Form. With a Course of Exercises. By ALFRED ELWES. 1s.
 35. **Spanish-English and English-Spanish Dictionary.** Including a large number of Technical Terms used in Mining, Engineering, &c., with the proper Accents and the Gender of every Noun. By ALFRED ELWES. 4s.; cloth boards, 5s. *.* Or with the GRAMMAR, cloth boards, 6s.

HEBREW.

- 46*. **Hebrew Grammar.** By Dr. BRESSLAU. 1s.
 44. **Hebrew and English Dictionary,** Biblical and Rabbinical; containing the Hebrew and Chaldee Roots of the Old Testament Post-Rabbinical Writings. By Dr. BRESSLAU. 6s. *.* Or with the GRAMMAR, 7s.
 46. **English and Hebrew Dictionary.** By Dr. BRESSLAU. 3s.
 44,46. **Hebrew Dictionary** (as above), in Two Vols., complete, with 46*. the GRAMMAR, cloth boards, 12s.

LATIN.

19. **Latin Grammar.** Containing the Inflections and Elementary Principles of Translation and Construction. By the Rev. THOMAS GOODWIN, M.A., Head Master of the Greenwich Proprietary School. 1s.
20. **Latin-English Dictionary.** Compiled from the best Authorities. By the Rev. THOMAS GOODWIN, M.A. 2s.
22. **English-Latin Dictionary;** together with an Appendix of French and Italian Words which have their origin from the Latin. By the Rev. THOMAS GOODWIN, M.A. 1s. 6d.
- 20, 22. **Latin Dictionary** (as above). Complete in One Vol., 3s. 6d.; cloth boards, 4s. 6d. * Or with the GRAMMAR, cloth boards, 5s. 6d.

LATIN CLASSICS. With Explanatory Notes in English.

1. **Latin Delectus.** Containing Extracts from Classical Authors, with Genealogical Vocabularies and Explanatory Notes, by HENRY YOUNG, lately Second Master of the Royal Grammar School, Guildford. 1s.
2. **Cæsar's Commentarii de Bello Gallico.** Notes, and a Geographical Register for the Use of Schools, by H. YOUNG. 2s.
12. **Ciceronis Oratio pro Sexto Roscio Amerino.** Edited, with an Introduction, Analysis, and Notes Explanatory and Critical, by the Rev. JAMES DAVIES, M.A. 1s.
14. **Ciceronis Cato Major, Lælius, Brutus, sive de Senectute, de Amicitia, de Claris Oratoribus Dialogi.** With Notes by W. BROWNRIGG SMITH, M.A., F.R.G.S. 2s.
3. **Cornelius Nepos.** With Notes. Intended for the Use of Schools. By H. YOUNG. 1s.
6. **Horace; Odes, Epode, and Carmen Sæculare.** Notes by H. YOUNG. 1s. 6d.
7. **Horace; Satires, Epistles, and Ars Poetica.** Notes by W. BROWNRIGG SMITH, M.A., F.R.G.S. 1s. 6d.
21. **Juvenalis Satiræ.** With Prolegomena and Notes by T. H. S. ESCOTT, B.A., Lecturer on Logic at King's College, London. 1s. 6d.
16. **Livy: History of Rome.** Notes by H. YOUNG and W. B. SMITH, M.A. Part 1. Books i., ii., 1s. 6d.
- 16*. ——— Part 2. Books iii., iv., v., 1s. 6d.
17. ——— Part 3. Books xxi., xxii., 1s. 6d.
8. **Sallustii Crispi Catalina et Bellum Jugurthinum.** Notes Critical and Explanatory, by W. M. DONNE, B.A., Trinity College, Cambridge. 1s. 6d.
10. **Terentii Adelphi Hecyra, Phormio.** Edited, with Notes, Critical and Explanatory, by the Rev. JAMES DAVIES, M.A. 2s.
9. **Terentii Andria et Heautontimorumenos.** With Notes, Critical and Explanatory, by the Rev. JAMES DAVIES, M.A. 1s. 6d.
11. **Terentii Eunuchus, Comœdia.** Edited, with Notes, by the Rev. JAMES DAVIES, M.A. 1s. 6d. Or the Adelphi, Andria, and Eunuchus, 3 vols. in 1, cloth boards, 6s.
4. **Virgilii Maronis Bucolica et Georgica.** With Notes on the Bucolics by W. RUSHTON, M.A., and on the Georgics by H. YOUNG. 1s. 6d.
5. **Virgilii Maronis Æneis.** Notes, Critical and Explanatory, by H. YOUNG. 2s.
19. **Latin Verse Selections,** from Catullus, Tibullus, Propertius, and Ovid. Notes by W. B. DONNE, M.A., Trinity College, Cambridge. s.
20. **Latin Prose Selections,** from Varro, Columella, Vitruvius, Seneca, Quintilian, Florus, Velleius Paterculus, Valerius Maximus, Suetonius, Apuleius, &c. Notes by W. B. DONNE, M.A. 2s.

GREEK.

14. **Greek Grammar**, in accordance with the Principles and Philological Researches of the most eminent Scholars of our own day. By HANS CLAUDE HAMILTON. 1s.
- 15, 17. **Greek Lexicon**. Containing all the Words in General Use, with their Significations, Inflections, and Doubtful Quantities. By HENRY R. HAMILTON. Vol. 1. Greek-English, 2s.; Vol. 2. English-Greek, 2s. Or the Two Vols. in One, 4s.: cloth boards, 5s.
- 14, 15. **Greek Lexicon** (as above). Complete, with the GRAMMAR, in 17. One Vol., cloth boards, 6s.

GREEK CLASSICS. With Explanatory Notes in English.

1. **Greek Delectus**. Containing Extracts from Classical Authors, with Genealogical Vocabularies and Explanatory Notes, by H. YOUNG. New Edition, with an improved and enlarged Supplementary Vocabulary, by JOHN HUTCHISON, M.A., of the High School, Glasgow. 1s.
30. **Æschylus: Prometheus Vincit: The Prometheus Bound**. From the Text of DINDORF. Edited, with English Notes, Critical and Explanatory, by the Rev. JAMES DAVIES, M.A. 1s.
32. **Æschylus: Septem Contra Thebes: The Seven against Thebes**. From the Text of DINDORF. Edited, with English Notes, Critical and Explanatory, by the Rev. JAMES DAVIES, M.A. 1s.
40. **Aristophanes: Acharnians**. Chiefly from the Text of C. H. WEISER. With Notes, by C. S. T. TOWNSEND, M.A. 1s. 6d.
26. **Euripides: Alcestis**. Chiefly from the Text of DINDORF. With Notes, Critical and Explanatory, by JOHN MILNER, B.A. 1s.
23. **Euripides: Hecuba and Medea**. Chiefly from the Text of DINDORF. With Notes, Critical and Explanatory, by W. BROWNRIGG SMITH, M.A., F.R.G.S. 1s. 6d.
- 14-17. **Herodotus, The History of**, chiefly after the Text of GAISFORD. With Preliminary Observations and Appendices, and Notes, Critical and Explanatory, by T. H. L. LEARY, M.A., D.C.L.
 Part 1. Books i., ii. (The Clio and Euterpe), 1s. 6d.
 Part 2. Books iii., iv. (The Thalia and Melpomene), 1s. 6d.
 Part 3. Books v.-vii. (The Terpsichore, Erato, and Polymnia), 1s. 6d.
 Part 4. Books viii., ix. (The Urania and Calliope) and Index, 1s. 6d.
- 5-12. **Homer, The Works of**. According to the Text of BARUMLEIN. With Notes, Critical and Explanatory, drawn from the best and latest Authorities, with Preliminary Observations and Appendices, by T. H. L. LEARY, M.A., D.C.L.
- | | | |
|--------------|-------------------------------------|---|
| THE ILIAD: | Part 1. Books i. to vi., 1s. 6d. | Part 3. Books xiii. to xviii., 1s. 6d. |
| | Part 2. Books vii. to xii., 1s. 6d. | Part 4. Books xix. to xxiv., 1s. 6d. |
| THE ODYSSEY: | Part 1. Books i. to vi., 1s. 6d. | Part 3. Books xiii. to xviii., 1s. 6d. |
| | Part 2. Books vii. to xii., 1s. 6d. | Part 4. Books xix. to xxiv., and Hymns, 2s. |
4. **Lucian's Select Dialogues**. The Text carefully revised, with Grammatical and Explanatory Notes, by H. YOUNG. 1s.
13. **Plato's Dialogues: The Apology of Socrates, the Crito, and the Phædo**. From the Text of C. F. HERMANN. Edited with Notes, Critical and Explanatory, by the Rev. JAMES DAVIES, M.A. 2s.
18. **Sophocles: Œdipus Tyrannus**. Notes by H. YOUNG. 1s.
20. **Sophocles: Antigone**. From the Text of DINDORF. Notes, Critical and Explanatory, by the Rev. JOHN MILNER, B.A. 2s.
41. **Thucydides: History of the Peloponnesian War**. Notes by H. YOUNG. Book 1. 1s.
- 2, 3. **Xenophon's Anabasis; or, The Retreat of the Ten Thousand**. Notes and a Geographica Register, by H. YOUNG. Part 1. Books i. to iii., 1s. Part 2. Books iv. to vii., 1s.
42. **Xenophon's Panegyric on Agesilaus**. Notes and Introduction by LL. F. W. JEWITT. 1s. 6d.

LONDON, May, 1875.

A Catalogue of Books

● INCLUDING MANY

NEW & STANDARD WORKS

IN

ENGINEERING, ARCHITECTURE,
AGRICULTURE, MATHEMATICS, MECHANICS,
SCIENCE, &c. &c.

PUBLISHED BY

LOCKWOOD & CO.,

7, STATIONERS'-HALL COURT, LUDGATE HILL, E.C.

ENGINEERING, SURVEYING, &c.

Humber's New Work on Water-Supply.

A COMPREHENSIVE TREATISE on the WATER-SUPPLY of CITIES and TOWNS. By WILLIAM HUMBER, Assoc. Inst. C.E., and M. Inst. M.E. Author of "Cast and Wrought Iron Bridge Construction," &c. &c. This work, it is expected, will contain about 50 Double Plates, and upwards of 300 pages of Text. Imp. 4to, half bound in morocco. *[In the press.]*

* * * *In accumulating information for this volume, the Author has been very liberally assisted by several professional friends, who have made this department of engineering their special study. He has thus been in a position to prepare a work which, within the limits of a single volume, will supply the reader with the most complete and reliable information upon all subjects, theoretical and practical, connected with water supply. Through the kindness of Messrs. Anderson, Bateman, Hawksley, Homersham, Baldwin Latham, Lawson, Milne, Quick, Rawlinson, Simpson, and others, several works, constructed and in course of construction, from the designs of these gentlemen, will be fully illustrated and described.*

AMONGST OTHER IMPORTANT SUBJECTS THE FOLLOWING WILL BE TREATED IN THE TEXT:—

Historical Sketch of the means that have been proposed and adopted for the Supply of Water.—Water and the Foreign Matter usually associated with it.—Rainfall and Evaporation.—Springs and Subterranean Lakes.—Hydraulics.—The Selection of Sites for Water Works.—Wells.—Reservoirs.—Filtration and Filter Beds.—Reservoir and Filter Bed Appendages.—Pumps and Appendages.—Pumping Machinery.—Culverts and Conduits, Aqueducts, Syphons, &c.—Distribution of Water.—Water Meters and general House Fittings.—Cost of Works for the Supply of Water.—Constant and Intermittent Supply.—Suggestions for preparing Plans, &c. &c., together with a Description of the numerous Works illustrated, viz:—Aberdeen, Bideford, Cockermouth, Dublin, Glasgow, Loch Katrine, Liverpool, Manchester, Rotherham, Sunderland, and several others; with copies of the Contract, Drawings and Specification in each case.

Humber's Modern Engineering. First Series.

A RECORD of the PROGRESS of MODERN ENGINEERING, 1863. Comprising Civil, Mechanical, Marine, Hydraulic, Railway, Bridge, and other Engineering Works, &c. By WILLIAM HUMBER, Assoc. Inst. C.E., &c. Imp. 4to, with 36 Double Plates, drawn to a large scale, and Photographic Portrait of John Hawkshaw, C.E., F.R.S., &c. Price 3*l.* 3*s.* half morocco.

List of the Plates.

NAME AND DESCRIPTION.	PLATES.	NAME OF ENGINEER.
Victoria Station and Roof—L. B. & S. C. Rail.	1 to 8	Mr. R. Jacob Hood, C.E.
Southport Pier	9 and 10	Mr. James Brunlees, C.E.
Victoria Station and Roof—L. C. & D. & G.W. Railways	11 to 15A	Mr. John Fowler, C.E.
Roof of Cremorne Music Hall	16	Mr. William Humber, C.E.
Bridge over G. N. Railway	17	Mr. Joseph Cubitt, C.E.
Roof of Station—Dutch Rhenish Railway ..	18 and 19	Mr. Euschedi, C.E.
Bridge over the Thames—West London Extension Railway	20 to 24	Mr. William Baker, C.E.
Armour Plates	25	Mr. James Chalmers, C.E.
Suspension Bridge, Thames	26 to 29	Mr. Peter W. Barlow, C.E.
The Allen Engine	30	Mr. G. T. Porter, M.E.
Suspension Bridge, Avon	31 to 33	Mr. John Hawkshaw, C.E. and W. H. Barlow, C.E.
Underground Railway	34 to 36	Mr. John Fowler, C.E.

With copious Descriptive Letterpress, Specifications, &c.

"Handsomely lithographed and printed. It will find favour with many who desire to preserve in a permanent form copies of the plans and specifications prepared for the guidance of the contractors for many important engineering works."—*Engineer*.

Humber's Modern Engineering. Second Series.

A RECORD of the PROGRESS of MODERN ENGINEERING, 1864; with Photographic Portrait of Robert Stephenson, C.E., M.P., F.R.S., &c. Price 3*l.* 3*s.* half morocco.

List of the Plates.

NAME AND DESCRIPTION.	PLATES.	NAME OF ENGINEER.
Birkenhead Docks, Low Water Basin	1 to 15	Mr. G. F. Lyster, C.E.
Charing Cross Station Roof—C. C. Railway.	16 to 18	Mr. Hawkshaw, C.E.
Digswell Viaduct—Great Northern Railway.	19	Mr. J. Cubitt, C.E.
Robbery Wood Viaduct—Great N. Railway.	20	Mr. J. Cubitt, C.E.
Iron Permanent Way	20A	
Clydach Viaduct—Merthyr, Tredegar, and Abergavenny Railway	21	Mr. Gardner, C.E.
Ebbw Viaduct ditto ditto ditto	22	Mr. Gardner, C.E.
College Wood Viaduct—Cornwall Railway ..	23	Mr. Brunel.
Dublin Winter Palace Roof	24 to 26	Messrs. Ordish & Le Feuvre.
Bridge over the Thames—L. C. & D. Railw.	27 to 32	Mr. J. Cubitt, C.E.
Albert Harbour, Greenock	33 to 36	Messrs. Bell & Miller.

With copious Descriptive Letterpress, Specifications, &c.

"A *résumé* of all the more interesting and important works lately completed in Great Britain; and containing, as it does, carefully executed drawings, with full working details, it will be found a valuable accessory to the profession at large."—*Engineer*.

"Mr. Humber has done the profession good and true service, by the fine collection of examples he has here brought before the profession and the public."—*Practical Mechanics' Journal*.

Humber's Modern Engineering. Third Series.

A RECORD of the PROGRESS of MODERN ENGINEERING, 1865. Imp. 4to, with 40 Double Plates, drawn to a large scale, and Photographic Portrait of J. R. M'Clean, Esq., late President of the Institution of Civil Engineers. Price 3*l.* 3*s.* half morocco.

List of Plates and Diagrams.

MAIN DRAINAGE, METROPOLIS.

NORTH SIDE.

Map showing Interception of Sewers.
Middle Level Sewer. Sewer under Regent's Canal.
Middle Level Sewer. Junction with Fleet Ditch.
Outfall Sewer. Bridge over River Lea. Elevation.
Outfall Sewer. Bridge over River Lea. Details.
Outfall Sewer. Bridge over River Lea. Details.
Outfall Sewer. Bridge over Marsh Lane, North Woolwich Railway, and Bow and Barking Railway Junction.
Outfall Sewer. Bridge over Bow and Barking Railway. Elevation.
Outfall Sewer. Bridge over Bow and Barking Railway. Details.
Outfall Sewer. Bridge over Bow and Barking Railway. Details.
Outfall Sewer. Bridge over East London Waterworks' Feeder. Elevation.
Outfall Sewer. Bridge over East London Waterworks' Feeder. Details.
Outfall Sewer. Reservoir. Plan.
Outfall Sewer. Reservoir. Section.
Outfall Sewer. Tumbling Bay and Outlet.
Outfall Sewer. Penstocks.

SOUTH SIDE.

Outfall Sewer. Bermondsey Branch.
Outfall Sewer. Bermondsey Branch.
Outfall Sewer. Reservoir and Outlet. Plan.

MAIN DRAINAGE, METROPOLIS,
continued—

Outfall Sewer. Reservoir and Outlet. Details.
Outfall Sewer. Reservoir and Outlet. Details.
Outfall Sewer. Reservoir and Outlet. Details.
Outfall Sewer. Filth Hoist.
Sections of Sewers (North and South Sides).

THAMES EMBANKMENT.

Section of River Wall.
Steam-boat Pier, Westminster. Elevation.
Steam-boat Pier, Westminster. Details.
Landing Stairs between Charing Cross and Waterloo Bridges.
York Gate. Front Elevation.
York Gate. Side Elevation and Details.
Overflow and Outlet at Savoy Street Sewer. Details.
Overflow and Outlet at Savoy Street Sewer. Penstock.
Overflow and Outlet at Savoy Street Sewer. Penstock.
Steam-boat Pier, Waterloo Bridge. Elevation.
Steam-boat Pier, Waterloo Bridge. Details.
Steam-boat Pier, Waterloo Bridge. Details.
Junction of Sewers. Plans and Sections.
Gullies. Plans and Sections.
Rolling Stock.
Granite and Iron Forts.

With copious Descriptive Letterpress, Specifications, &c.

Opinions of the Press.

"Mr. Humber's works—especially his annual 'Record,' with which so many of our readers are now familiar—fill a void occupied by no other branch of literature. . . . The drawings have a constantly increasing value, and whoever desires to possess clear representations of the two great works carried out by our Metropolitan Board will obtain Mr. Humber's last volume."—*Engineering*.

"No engineer, architect, or contractor should fail to preserve these records of works which, for magnitude, have not their parallel in the present day, no student in the profession but should carefully study the details of these great works, which he may be one day called upon to imitate."—*Mechanics' Magazine*.

"A work highly creditable to the industry of its author. . . . The volume is quite an encyclopedia for the study of the student who desires to master the subject of municipal drainage on its scale of greatest development."—*Practical Mechanics Journal*.

Humber's Modern Engineering. Fourth Series.

A RECORD of the PROGRESS of MODERN ENGINEERING, 1866. Imp. 4to, with 36 Double Plates, drawn to a large scale, and Photographic Portrait of John Fowler, Esq., President of the Institution of Civil Engineers. Price 3*l.* 3*s.* half-morocco.

List of the Plates and Diagrams.

NAME AND DESCRIPTION.	PLATES.	NAME OF ENGINEER.
Abbey Mills Pumping Station, Main Drainage, Metropolis.....	1 to 4	Mr. Bazalgette, C.E.
Barrow Docks	5 to 9	Messrs. M'Clean & Stillman, [C.E.]
Manquis Viaduct, Santiago and Valparaiso Railway	10, 11	Mr. W. Loyd, C.E.
Adams' Locomotive, St. Helen's Canal Railw. Cannon Street Station Roof, Charing Cross Railway	12, 13	Mr. H. Cross, C.E.
Road Bridge over the River Moka	14 to 16	Mr. J. Hawkshaw, C.E.
Telegraphic Apparatus for Mesopotamia	17, 18	Mr. H. Wakefield, C.E.
Viaduct over the River Wye, Midland Railw. St. Germans Viaduct, Cornwall Railway	19	Mr. Siemens, C.E.
Wrought-Iron Cylinder for Diving Bell	20 to 22	Mr. W. H. Barlow, C.E.
Millwall Docks	23, 24	Mr. Brunel, C.E.
	25	Mr. J. Coode, C.E.
	26 to 31	Messrs. J. Fowler, C.E., and William Wilson, C.E.
Milroy's Patent Excavator	32	Mr. Milroy, C.E.
Metropolitan District Railway	33 to 38	Mr. J. Fowler, Engineer-in-Chief, and Mr. T. M. Johnson, C.E.
Harbours, Ports, and Breakwaters	A to C	—

The Letterpress comprises—

A concluding article on Harbours, Ports, and Breakwaters, with Illustrations and detailed descriptions of the Breakwater at Cherbourg, and other important modern works; an article on the Telegraph Lines of Mesopotamia; a full description of the Wrought-iron Diving Cylinder for Ceylon, the circumstances under which it was used, and the means of working it; full description of the Millwall Docks; &c., &c., &c.

Opinions of the Press.

"Mr. Humber's 'Record of Modern Engineering' is a work of peculiar value, as well to those who design as to those who study the art of engineering construction. It embodies a vast amount of practical information in the form of full descriptions and working drawings of all the most recent and noteworthy engineering works. The plates are excellently lithographed, and the present volume of the 'Record' is not a whit behind its predecessors."—*Mechanics' Magazine*.

"We gladly welcome another year's issue of this valuable publication from the able pen of Mr. Humber. The accuracy and general excellence of this work are well known, while its usefulness in giving the measurements and details of some of the latest examples of engineering, as carried out by the most eminent men in the profession, cannot be too highly prized."—*Artisan*.

"The volume forms a valuable companion to those which have preceded it, and cannot fail to prove a most important addition to every engineering library."—*Mining Journal*.

"No one of Mr. Humber's volumes was bad; all were worth their cost, from the mass of plates from well-executed drawings which they contained. In this respect, perhaps, this last volume is the most valuable that the author has produced."—*Practical Mechanics' Journal*.

Humber's Great Work on Bridge Construction.

A COMPLETE and PRACTICAL TREATISE on CAST and WROUGHT-IRON BRIDGE CONSTRUCTION, including Iron Foundations. In Three Parts—Theoretical, Practical, and Descriptive. By WILLIAM HUMBER, Assoc. Inst. C.E., and M. Inst. M.E. Third Edition, revised and much improved, with 115 Double Plates (20 of which now first appear in this edition), and numerous additions to the Text. In 2 vols. imp. 4to., price 6l. 16s. 6d. half bound in morocco.

"A very valuable contribution to the standard literature of civil engineering. In addition to elevations, plans, and sections, large scale details are given, which very much enhance the instructive worth of these illustrations. No engineer would willingly be without so valuable a fund of information."—*Civil Engineer and Architect's Journal*.

"The First or Theoretical Part contains mathematical investigations of the principles involved in the various forms now adopted in bridge construction. These investigations are exceedingly complete, having evidently been very carefully considered and worked out to the utmost extent that can be desired by the practical man. The tables are of a very useful character, containing the results of the most recent experiments, and amongst them are some valuable tables of the weight and cost of cast and wrought-iron structures actually erected. The volume of text is amply illustrated by numerous woodcuts, plates, and diagrams; and the plates in the second volume do great credit to both draughtsmen and engravers. In conclusion, we have great pleasure in cordially recommending this work to our readers."—*Artisan*.

"Mr. Humber's stately volumes lately issued—in which the most important bridges erected during the last five years, under the direction of the late Mr. Brunel, Sir W. Cubitt, Mr. Hawkshaw, Mr. Page, Mr. Fowler, Mr. Hemans, and others among our most eminent engineers, are drawn and specified in great detail."—*Engineer*.

Weale's Engineers' Pocket-Book.

THE ENGINEERS', ARCHITECTS', and CONTRACTORS' POCKET-BOOK (LOCKWOOD & Co.'s; formerly WEALE'S). Published Annually. In roan tuck, gilt edges, with 10 Copper-Plates and numerous Woodcuts. Price 6s.

"A vast amount of really valuable matter condensed into the small dimensions of a book which is, in reality, what it professes to be—a pocket-book.

We cordially recommend the book to the notice of the managers of coal and other mines; to them it will prove a handy book of reference on a variety of subjects more or less intimately connected with their profession."—*Colliery Guardian*.

"Every branch of engineering is treated of, and facts, figures, and data of every kind abound."—*Mechanics' Mag.*

"It contains a large amount of information peculiarly valuable to those for whose use it is compiled. We cordially commend it to the engineering and architectural professions generally."—*Mining Journal*.

Iron Bridges, Girders, Roofs, &c.

A TREATISE on the APPLICATION of IRON to the CONSTRUCTION of BRIDGES, GIRDERS, ROOFS, and OTHER WORKS; showing the Principles upon which such Structures are Designed, and their Practical Application. Especially arranged for the use of Students and Practical Mechanics, all Mathematical Formulæ and Symbols being excluded. By FRANCIS CAMPIN, C.E. With numerous Diagrams. 12mo., cloth boards, 3s.

"For numbers of young engineers the book is just the cheap, handy, first guide they want."—*Middlesborough Weekly News*.

"Invaluable to those who have not been educated in mathematics."—*Colliery Guardian*.

"Remarkably accurate and well written."—*Artisan*.

Barlow on the Strength of Materials, enlarged.

A TREATISE ON THE STRENGTH OF MATERIALS, with Rules for application in Architecture, the Construction of Suspension Bridges, Railways, &c.; and an Appendix on the Power of Locomotive Engines, and the effect of Inclined Planes and Gradients. By PETER BARLOW, F.R.S. A New Edition, revised by his Sons, P. W. BARLOW, F.R.S., and W. H. BARLOW, F.R.S., to which are added Experiments by HODGKINSON, FAIRBAIRN, and KIRKALDY; an Essay (with Illustrations) on the effect produced by passing Weights over Elastic Bars, by the Rev. ROBERT WILLIS, M.A., F.R.S. And Formulæ for Calculating Girders, &c. The whole arranged and edited by W. HUMBER, Assoc. Inst. C.E., Author of "A Complete and Practical Treatise on Cast and Wrought-Iron Bridge Construction," &c. &c. Demy 8vo, 400 pp., with 19 large Plates, and numerous woodcuts, price 18s. cloth.

"Although issued as the sixth edition, the volume under consideration is worthy of being regarded, for all practical purposes, as an entirely new work . . . the book is undoubtedly worthy of the highest commendation."—*Mining Journal*.

"An increased value has been given to this very valuable work by the addition of a large amount of information, which cannot prove otherwise than highly useful to those who require to consult it. . . . The arrangement and editing of this mass of information has been undertaken by Mr. Humber, who has most ably fulfilled a task requiring special care and ability to render it a success."—*Mechanics' Magazine*.

"The best book on the subject which has yet appeared. . . . We know of no work that so completely fulfils its mission."—*English Mechanic*.

"There is not a pupil in an engineering school, an apprentice in an engineer's or architect's office, or a competent clerk of works, who will not recognise in the scientific volume newly given to circulation, an old and valued friend."—*Building News*.

"The standard treatise upon this particular subject."—*Engineer*.

Strains, Formulæ & Diagrams for Calculation of.

A HANDY BOOK for the CALCULATION of STRAINS in GIRDERS and SIMILAR STRUCTURES, and their STRENGTH; consisting of Formulæ and Corresponding Diagrams, with numerous Details for Practical Application, &c. By WILLIAM HUMBER, Assoc. Inst. C.E., &c. Fcap. 8vo, with nearly 100 Woodcuts and 3 Plates, price 7s. 6d. cloth.

"The arrangement of the matter in this little volume is as convenient as it well could be. . . . The system of employing diagrams as a substitute for complex computations is one justly coming into great favour, and in that respect Mr. Humber's volume is fully up to the times."—*Engineering*.

"The formulæ are neatly expressed, and the diagrams good."—*Athenæum*.

"We heartily commend this really handy book to our engineer and architect readers."—*English Mechanic*.

Mechanical Engineering.

A PRACTICAL TREATISE ON MECHANICAL ENGINEERING: comprising Metallurgy, Moulding, Casting, Forging, Tools, Workshop Machinery, Mechanical Manipulation, Manufacture of the Steam Engine, &c. &c. With an Appendix on the Analysis of Iron and Iron Ore, and Glossary of Terms. By FRANCIS CAMPIN, C.E. Illustrated with 91 Woodcuts and 28 Plates of Slotting, Shaping, Drilling, Punching, Shearing, and Riveting Machines—Blast, Refining, and Reverberatory Furnaces—Steam Engines, Governors, Boilers, Locomotives, &c. 8vo, cloth, 12s.

Strains.

THE STRAINS ON STRUCTURES OF IRONWORK; with Practical Remarks on Iron Construction. By F. W. SHIELDS, M. Inst. C.E. Second Edition, with 5 plates. Royal 8vo, 5s. cloth.

CONTENTS.—Introductory Remarks; Beams Loaded at Centre; Beams Loaded at unequal distances between supports; Beams uniformly Loaded; Girders with triangular bracing Loaded at centre; Ditto, Loaded at unequal distances between supports; Ditto, uniformly Loaded; Calculation of the Strains on Girders with triangular Basings; Cantilevers; Continuous Girders; Lattice Girders; Girders with Vertical Struts and Diagonal Ties; Calculation of the Strains on Ditto; Bow and String Girders; Girders of a form not belonging to any regular figure; Plate Girders; Apportionments of Material to Strain; Comparison of different Girders; Proportion of Length to Depth of Girders; Character of the Work; Iron Roofs.

Construction of Iron Beams, Pillars, &c.

IRON AND HEAT, Exhibiting the Principles concerned in the Construction of Iron Beams, Pillars, and Bridge Girders, and the Action of Heat in the Smelting Furnace. By JAMES ARMOUR, C.E. Woodcuts, 12mo, cloth boards, 3s. 6d.; cloth limp, 2s. 6d.

"A very useful and thoroughly practical little volume, in every way deserving of circulation amongst working men."—*Mining Journal*.

"No ironworker who wishes to acquaint himself with the principles of his own trade can afford to be without it."—*South Durham Mercury*.

Power in Motion.

POWER IN MOTION: Horse Power, Motion, Toothed Wheel Gearing, Long and Short Driving Bands, Angular Forces, &c. By JAMES ARMOUR, C.E. With 73 Diagrams. 12mo, cloth boards, 3s. 6d. [Recently published.]

"Numerous illustrations enable the author to convey his meaning as explicitly as it is perhaps possible to be conveyed. The value of the theoretic and practical knowledge imparted cannot well be over estimated."—*Newcastle Weekly Chronicle*.

Metallurgy of Iron.

A TREATISE ON THE METALLURGY OF IRON: containing Outlines of the History of Iron Manufacture, Methods of Assay, and Analyses of Iron Ores, Processes of Manufacture of Iron and Steel, &c. By H. BAUERMAN, F.G.S., Associate of the Royal School of Mines. With numerous Illustrations. Fourth Edition, revised and much enlarged. 12mo., cloth boards, 5s. 6d. [Just published.]

"Carefully written, it has the merit of brevity and conciseness, as to less important points, while all material matters are very fully and thoroughly entered into."—*Standard*.

Trigonometrical Surveying.

AN OUTLINE OF THE METHOD OF CONDUCTING A TRIGONOMETRICAL SURVEY, for the Formation of Geographical and Topographical Maps and Plans, Military Reconnaissance, Levelling, &c., with the most useful Problems in Geodesy and Practical Astronomy, and Formulæ and Tables for Facilitating their Calculation. By LIEUT.-GENERAL FROME, R.E., late Inspector-General of Fortifications, &c. Fourth Edition, Enlarged, thoroughly Revised, and partly Re-written. By CAPTAIN CHARLES WARREN, R.E., F.G.S. With 19 Plates and 115 Woodcuts, royal 8vo, price 16s. cloth.

Hydraulics.

HYDRAULIC TABLES, CO-EFFICIENTS, and FORMULÆ for finding the Discharge of Water from Orifices, Notches, Weirs, Pipes, and Rivers. With New Formulæ, Tables, and General Information on Rain-fall, Catchment-Basins, Drainage, Sewerage, Water Supply for Towns and Mill Power. By JOHN NEVILLE, Civil Engineer, M.R.I.A. Third Edition, carefully revised, with considerable Additions. Numerous Illustrations. Crown 8vo, 14s. cloth. [Now ready.]

Drawing for Engineers, &c.

THE WORKMAN'S MANUAL OF ENGINEERING DRAWING. By JOHN MAXTON, Instructor in Engineering Drawing, South Kensington. Second Edition, carefully revised. With upwards of 300 Plates and Diagrams. 12mo, cloth, strongly bound, 4s. 6d.

"Even accomplished draughtsmen will find in it much that will be of use to them. A copy of it should be kept for reference in every drawing office."—*Engineering*.

"An indispensable book for teachers of engineering drawing."—*Mechanics' Magazine*.

Levelling.

A TREATISE on the PRINCIPLES and PRACTICE of LEVELLING; showing its Application to Purposes of Railway and Civil Engineering, in the Construction of Roads; with Mr. TELFORD'S Rules for the same. By FREDERICK W. SIMMS, F.G.S., M. Inst. C.E. Fifth Edition, very carefully revised, with the addition of Mr. LAW'S Practical Examples for Setting out Railway Curves, and Mr. TRAUTWINE'S Field Practice of Laying out Circular Curves. With 7 Plates and numerous Woodcuts. 8vo, 8s. 6d. cloth. * * TRAUTWINE on Curves, separate, price 5s.

"One of the most important text-books for the general surveyor, and there is scarcely a question connected with levelling for which a solution would be sought but that would be satisfactorily answered by consulting the volume."—*Mining Journal*.

"The text-book on levelling in most of our engineering schools and colleges."—*Engineer*.

"The publishers have rendered a substantial service to the profession, especially to the younger members, by bringing out the present edition of Mr. Simms's useful work."—*Engineering*.

Earthwork.

EARTHWORK TABLES, showing the Contents in Cubic Yards of Embankments, Cuttings, &c., of Heights or Depths up to an average of 80 feet. By JOSEPH BROADBENT, C.E., and FRANCIS CAMPIN, C.E. Cr. 8vo. oblong, 5s. cloth. [Just Published.]

"Creditable to both the authors and the publishers. . . . The way in which accuracy is attained, by a simple division of each cross section into three elements, two of which are constant and one variable, is ingenious."—*Athenæum*.

"Likely to be of considerable service to engineers."—*Building News*.

"Practical illustrations of the tabulated quantities are given, which make the working of the tables easy to the most inexperienced. The work is excellently got up, and the type is remarkably clear; and contractors, builders, and engineers should not be without it."—*Builders' Weekly Reporter*.

"Two additions, one subtraction, and four multiplications, with the use of the tables, suffice to determine the quantity with considerable accuracy in any piece of earthwork; and, as the tables are of pocket-book size and very legibly printed, they cannot fail to come into general use."—*Mining Journal*.

Strength of Cast Iron, &c.

A PRACTICAL ESSAY on the STRENGTH of CAST IRON and OTHER METALS. By the late THOMAS TREDGOLD, Mem. Inst. C.E., Author of "Elementary Principles of Carpentry," &c. Fifth Edition, Edited by EATON HODGKINSON, F.R.S.; to which are added EXPERIMENTAL RESEARCHES on the STRENGTH and OTHER PROPERTIES of CAST IRON. By the EDITOR. The whole Illustrated with 9 Engravings and numerous Woodcuts. 8vo, 12s. cloth.

* * HODGKINSON'S EXPERIMENTAL RESEARCHES ON THE STRENGTH AND OTHER PROPERTIES OF CAST IRON may be had separately. With Engravings and Woodcuts. 8vo, price 6s. cloth.

The High-Pressure Steam Engine.

THE HIGH-PRESSURE STEAM ENGINE; an Exposition of its Comparative Merits, and an Essay towards an Improved System of Construction, adapted especially to secure Safety and Economy. By Dr. ERNST ALBAN, Practical Machine Maker, Plau, Mecklenberg. Translated from the German, with Notes, by Dr. POLE, F.R.S., M. Inst. C.E., &c. &c. With 28 fine Plates, 8vo, 16s. 6d. cloth.

"A work like this, which goes thoroughly into the examination of the high-pressure engine, the boiler, and its appendages, &c., is exceedingly useful, and deserves a place in every scientific library."—*Steam Shipping Chronicle*.

Steam Boilers.

A TREATISE ON STEAM BOILERS: their Strength, Construction, and Economical Working. By ROBERT WILSON, late Inspector for the Manchester Steam Users' Association for the Prevention of Steam Boiler Explosions, and for the Attainment of Economy in the Application of Steam. 12mo, cloth boards, 328 pages, price 6s.

Tables of Curves.

TABLES OF TANGENTIAL ANGLES and MULTIPLES for setting out Curves from 5 to 200 Radius. By ALEXANDER BEAZELEY, M. Inst. C.E. Printed on 48 Cards, and sold in a cloth box, waistcoat-pocket size, price 3s. 6d.

"Each table is printed on a small card, which, being placed on the theodolite, leaves the hands free to manipulate the instrument—no small advantage as regards the rapidity of work. They are clearly printed, and compactly fitted into a small case for the pocket—an arrangement that will recommend them to all practical men."—*Engineer*.

"Very handy: a man may know that all his day's work must fall on two of these cards, which he puts into his own card-case, and leaves the rest behind."—*Athenaeum*.

Laying Out Curves.

THE FIELD PRACTICE of LAYING OUT CIRCULAR CURVES for RAILROADS. By JOHN C. TRAUTWINE, C.E. (Extracted from SIMMS'S Work on Levelling). 8vo, 5s. sewed.

Estimate and Price Book.

THE CIVIL ENGINEER'S AND CONTRACTOR'S ESTIMATE AND PRICE BOOK for Home or Foreign Service: in reference to Roads, Railways, Tramways, Docks, Harbours, Forts, Fortifications, Bridges, Aqueducts, Tunnels, Sewers, Waterworks, Gasworks, Stations, Barracks, Warehouses, &c. &c. &c. With Specifications for Permanent Way, Telegraph Materials, Plant, Maintenance, and Working of a Railway; and a Priced List of Machinery, Plant, Tools, &c. By W. D. HASKOLL, C.E. Plates and Woodcuts. Published annually. 8vo, cloth, 6s.

"As furnishing a variety of data on every conceivable want to civil engineers and contractors, this book has ever stood perhaps unrivalled."—*Architect*.

Surveying (Land and Marine).

LAND AND MARINE SURVEYING, in Reference to the Preparation of Plans for Roads and Railways, Canals, Rivers, Towns' Water Supplies, Docks and Harbours; with Description and Use of Surveying Instruments. By W. DAVIS HASKOLL, C.E., Author of "The Engineer's Field Book," "Examples of Bridge and Viaduct Construction," &c. Demy 8vo, price 12s. 6d. cloth, with 14 folding Plates, and numerous Woodcuts.

"A most useful and well arranged book for the aid of a student. . . . We can strongly recommend it as a carefully-written and valuable text-book."—*Builder*.

"Mr. Haskoll has knowledge and experience, and can so give expression to it as to make any matter on which he writes, clear to the youngest pupil in a surveyor's office."—*Colliery Guardian*.

"A volume which cannot fail to prove of the utmost practical utility. . . . It is one which may be safely recommended to all students who aspire to become clean and expert surveyors."—*Mining Journal*.

Engineering Fieldwork.

THE PRACTICE OF ENGINEERING FIELDWORK, applied to Land and Hydraulic, Hydrographic, and Submarine Surveying and Levelling. Second Edition, revised, with considerable additions, and a Supplementary Volume on WATERWORKS, SEWERS, SEWAGE, and IRRIGATION. By W. DAVIS HASKOLL, C.E. Numerous folding Plates. Demy 8vo, 2 vols. in one, cloth boards, 17. 1s. (published at 21. 4s.)

Mining, Surveying and Valuing.

THE MINERAL SURVEYOR AND VALUER'S COMPLETE GUIDE, comprising a Treatise on Improved Mining Surveying, with new Traverse Tables; and Descriptions of Improved Instruments; also an Exposition of the Correct Principles of Laying out and Valuing Home and Foreign Iron and Coal Mineral Properties: to which is appended M. THOMAN'S (of the Crédit Mobilier, Paris) TREATISE on COMPOUND INTEREST and ANNUITIES, with LOGARITHMIC TABLES. By WILLIAM LINTERN, Mining and Civil Engineer. 12mo, strongly bound in cloth boards, with four Plates of Diagrams, Plans, &c., price 10s. 6d.

"Contains much valuable information given in a small compass, and which, as far as we have tested it, is thoroughly trustworthy."—*Iron and Coal Trades Review*.

"The matter, arrangement, and illustration of this work are all excellent, and make it one of the best of its kind."—*Standard*.

Fire Engineering.

FIRES, FIRE-ENGINES, AND FIRE BRIGADES. With a History of Fire-Engines, their Construction, Use, and Management; Remarks on Fire-Proof Buildings, and the Preservation of Life from Fire; Statistics of the Fire Appliances in English Towns; Foreign Fire Systems; Hints on Fire Brigades, &c., &c. By CHARLES F. T. YOUNG, C.E. With numerous Illustrations, handsomely printed, 544 pp., demy 8vo, price 1*l.* 4*s.* cloth.

"We can most heartily commend this book. . . . It is really the only English work we now have upon the subject."—*Engineering*.

"We strongly recommend the book to the notice of all who are in any way interested in fires, fire-engines, or fire-brigades."—*Mechanics' Magazine*.

Manual of Mining Tools.

MINING TOOLS. For the use of Mine Managers, Agents, Mining Students, &c. By WILLIAM MORGANS, Lecturer on Practical Mining at the Bristol School of Mines. Volume of Text. 12mo. With an Atlas of Plates, containing 235 Illustrations. 4to. Together, price 9*s.* cloth boards. [Recently published.]

"Students in the Science of Mining, and not only they, but subordinate officials in mines, and even Overmen, Captains, Managers, and Viewers may gain practical knowledge and useful hints by the study of Mr. Morgans's Manual."—*Colliery Guardian*.

"A very valuable work, which will tend materially to improve our mining literature."—*Mining Journal*.

Gas and Gasworks.

A TREATISE ON GASWORKS and the PRACTICE of MANUFACTURING and DISTRIBUTING COAL GAS. By SAMUEL HUGHES, C.E. Fourth Edition, revised by W. RICHARDS, C.E. With 68 Woodcuts, bound in cloth boards, 12mo, price 4*s.*

Waterworks for Cities and Towns.

WATERWORKS for the SUPPLY of CITIES and TOWNS, with a Description of the Principal Geological Formations of England as influencing Supplies of Water. By SAMUEL HUGHES, F.G.S., Civil Engineer. New and enlarged edition, 12mo, cloth boards, with numerous Illustrations, price 5*s.*

"One of the most convenient, and at the same time reliable works on a subject, the vital importance of which cannot be over-estimated."—*Bradford Observer*.

Coal and Coal Mining.

COAL AND COAL MINING: a Rudimentary Treatise on. By WARINGTON W. SMYTH, M.A., F.R.S., &c., Chief Inspector of the Mines of the Crown and of the Duchy of Cornwall. New edition, revised and corrected. 12mo., cloth boards, with numerous Illustrations, price 4*s.* 6*d.*

"Every portion of the volume appears to have been prepared with much care, and as an outline is given of every known coal-field in this and other countries, as well as of the two principal methods of working, the book will doubtless interest a very large number of readers."—*Mining Journal*.

"Certainly experimental skill and rule-of-thumb practice would be greatly enriched by the addition of the theoretical knowledge and scientific information which Mr. Warington Smyth communicates in combination with the results of his own experience and personal research."—*Colliery Guardian*.

Field-Book for Engineers.

THE ENGINEER'S, MINING SURVEYOR'S, and CONTRACTOR'S FIELD-BOOK. By W. DAVIS HASKOLL, Civil Engineer. Third Edition, much enlarged, consisting of a Series of Tables, with Rules, Explanations of Systems, and Use of Theodolite for Traverse Surveying and Plotting the Work with minute accuracy by means of Straight Edge and Set Square only; Levelling with the Theodolite, Casting out and Reducing Levels to Datum, and Plotting Sections in the ordinary manner; Setting out Curves with the Theodolite by Tangential Angles and Multiples with Right and Left-hand Readings of the Instrument; Setting out Curves without Theodolite on the System of Tangential Angles by Sets of Tangents and Offsets; and Earthwork Tables to 80 feet deep, calculated for every 6 inches in depth. With numerous wood-cuts, 12mo, price 12s. cloth.

"A very useful work for the practical engineer and surveyor. Every person engaged in engineering field operations will estimate the importance of such a work and the amount of valuable time which will be saved by reference to a set of reliable tables prepared with the accuracy and fulness of those given in this volume."—*Railway News*.

"The book is very handy, and the author might have added that the separate tables of sines and tangents to every minute will make it useful for many other purposes, the genuine traverse tables existing all the same."—*Athenaeum*.

"The work forms a handsome pocket volume, and cannot fail, from its portability and utility, to be extensively patronised by the engineering profession."—*Mining Journal*.

"We strongly recommend this second edition of Mr. Haskoll's 'Field Book' to all classes of surveyors."—*Colliery Guardian*.

Earthwork, Measurement and Calculation of.

A MANUAL on EARTHWORK. By ALEX. J. S. GRAHAM, C.E., Resident Engineer, Forest of Dean Central Railway. With numerous Diagrams. 18mo, 2s. 6d. cloth.

"As a really handy book for reference, we know of no work equal to it; and the railway engineers and others employed in the measurement and calculation of earth work will find a great amount of practical information very admirably arranged, and available for general or rough estimates, as well as for the more exact calculations required in the engineers' contractor's offices."—*Artisan*.

Harbours.

THE DESIGN AND CONSTRUCTION of HARBOURS: A Treatise on Maritime Engineering. By THOMAS STEVENSON, F.R.S.E., F.G.S., M.I.C.E. Second Edition, containing many additional subjects, and otherwise generally extended and revised. With 20 Plates and numerous Cuts. Small 4to, 15s. cloth.

Mathematical and Drawing Instruments.

A TREATISE ON THE PRINCIPAL MATHEMATICAL AND DRAWING INSTRUMENTS employed by the Engineer, Architect, and Surveyor. By FREDERICK W. SIMMS, M. Inst. C.E., Author of "Practical Tunnelling," &c. Third Edition, with numerous Cuts. 12mo, price 3s. 6d. cloth.

Bridge Construction in Masonry, Timber, & Iron.

EXAMPLES OF BRIDGE AND VIADUCT CONSTRUCTION OF MASONRY, TIMBER, AND IRON; consisting of 46 Plates from the Contract Drawings or Admeasurement of select Works. By W. DAVIS HASKOLL, C.E. Second Edition, with the addition of 554 Estimates, and the Practice of Setting out Works, illustrated with 6 pages of Diagrams. Imp. 4to, price 2*l.* 12*s.* 6*d.* half-morocco.

"One of the very few works extant descending to the level of ordinary routine, and treating on the common every-day practice of the railway engineer. . . . A work of the present nature by a man of Mr. Haskoll's experience, must prove invaluable to hundreds. The tables of estimates appended to this edition will considerably enhance its value."—*Engineering*.

Mathematical Instruments, their Construction, &c.

MATHEMATICAL INSTRUMENTS: THEIR CONSTRUCTION, ADJUSTMENT, TESTING, AND USE; comprising Drawing, Measuring, Optical, Surveying, and Astronomical Instruments. By J. F. HEATHER, M.A., Author of "Practical Plane Geometry," "Descriptive Geometry," &c. Enlarged Edition, for the most part entirely rewritten. With numerous Wood-cuts. 12mo, cloth boards, price 5*s.*

Oblique Arches.

A PRACTICAL TREATISE ON THE CONSTRUCTION OF OBLIQUE ARCHES. By JOHN HART. Third Edition, with Plates. Imperial 8vo, price 8*s.* cloth.

Oblique Bridges.

A PRACTICAL and THEORETICAL ESSAY ON OBLIQUE BRIDGES, with 13 large folding Plates. By GEO. WATSON BUCK, M. Inst. C.E. Second Edition, corrected by W. H. BARLOW, M. Inst. C.E. Imperial 8vo, 12*s.* cloth.

"The standard text-book for all engineers regarding skew arches, is Mr. Buck's treatise, and it would be impossible to consult a better."—*Engineer*.

Pocket-Book for Marine Engineers.

A POCKET BOOK FOR MARINE ENGINEERS. Containing useful Rules and Formulæ in a compact form. By FRANK PROCTOR, A.I.N.A. Second Edition, revised and enlarged. Royal 32mo, leather, gilt edges, with strap, price 4*s.*

"We recommend it to our readers as going far to supply a long-felt want."—*Naval Science*.

"A most useful companion to all marine engineers."—*United Service Gazette*.

"Scarcely anything required by a naval engineer appears to have been forgotten."—*Iron*.

"A very valuable publication . . . a means of saving much time and labour."—*New York Monthly Record*.

Weale's Dictionary of Terms.

A DICTIONARY OF TERMS used in ARCHITECTURE, BUILDING, ENGINEERING, MINING, METALLURGY, ARCHÆOLOGY, the FINE ARTS, &c. By JOHN WEALE. Fourth Edition, enlarged and revised by ROBERT HUNT, F.R.S., Keeper of Mining Records, Editor of "Ure's Dictionary of Arts," &c. 12mo, cloth boards, price 6*s.*

Grantham's Iron Ship-Building, enlarged.

ON IRON SHIP-BUILDING; with Practical Examples and Details. Fifth Edition. Imp. 4to; boards, enlarged from 24 to 40 Plates (21 quite new), including the latest Examples. Together with separate Text, 12mo, cloth limp, also considerably enlarged. By JOHN GRANTHAM, M. Inst. C.E., &c. Price 2l. 2s. complete.

Description of Plates.

1. Hollow and Bar Keels, Stem and Stern Posts. [Pieces.]
2. Side Frames, Floorings, and Bilge
3. Floorings *continued*—Keelsons, Deck Beams, Gunwales, and Stringers.
4. Gunwales *continued*—Lower Decks, and Orlop Beams.
- 4a. Gunwales and Deck Beam Iron.
5. Angle-Iron, T Iron, Z Iron, Bulb Iron, as Rolled for Building.
6. Rivets, shown in section, natural size; Flush and Lapped Joints, with Single and Double Riveting.
7. Plating, three plans; Bulkheads and Modes of Securing them.
8. Iron Masts, with Longitudinal and Transverse Sections.
9. Sliding Keel, Water Ballast, Moulding the Frames in Iron Ship Building, Levelling Plates.
10. Longitudinal Section, and Half-breadth Deck Plan of Large Vessels on a reduced Scale.
11. Midship Sections of Three Vessels.
12. *Large Vessel*, showing Details—*Fore End* in Section, and End View, with Stern Post, Crutches, &c.
13. *Large Vessel*, showing Details—*After End* in Section, with End View, Stern Frame for Screw, and Rudder.
14. *Large Vessel*, showing Details—*Midship Section*, half breadth.
15. *Machines* for Punching and Shearing Plates and Angle-Iron, and for Bending Plates; Rivet Hearth.
- 15a. Beam-Bending Machine, Independent Shearing, Punching and Angle-Iron Machine.
- 15b. Double Lever Punching and Shearing Machine, arranged for cutting Angle and T Iron, with Dividing Table and Engine.
16. *Machines*.—Garforth's Riveting Machine, Drilling and Counter-Sinking Machine.
- 16a. Plate Planing Machine.
17. *Air Furnace* for Heating Plates and Angle-Iron: Various Tools used in Riveting and Plating.
18. *Gunwale*; Keel and Flooring; Plan for Sheathing with Copper.
- 18a. Grantham's Improved Plan of Sheathing Iron Ships with Copper.
19. Illustrations of the Magnetic Condition of various Iron Ships.
20. Gray's Floating Compass and Binnacle, with Adjusting Magnets, &c.
21. Corroded Iron Bolt in Frame of Wooden Ship; Jointing Plates.
- 22-4. *Great Eastern*—Longitudinal Sections and Half-breadth Plans—Midship Section, with Details—Section in Engine Room, and Paddle Boxes.
- 25-6. Paddle Steam Vessel of Steel.
27. *Scarbrough*—Paddle Vessel of Steel.
- 28-9. Proposed Passenger Steamer.
30. *Persian*—Iron Screw Steamer.
31. Midship Section of H.M. Steam Frigate, *Warrior*.
32. Midship Section of H.M. Steam Frigate, *Hercules*.
33. Stem, Stern, and Rudder of H.M. Steam Frigate, *Bellerophon*.
34. Midship Section of H.M. Troop Ship, *Serapis*.
35. Iron Floating Dock.

"A thoroughly practical work, and every question of the many in relation to iron shipping which admit of diversity of opinion, or have various and conflicting personal interests attached to them, is treated with sober and impartial wisdom and good sense.

... As good a volume for the instruction of the pupil or student of iron naval architecture as can be found in any language."—*Practical Mechanics' Journal*.

"A very elaborate work. . . . It forms a most valuable addition to the history of iron shipbuilding, while its having been prepared by one who has made the subject his study for many years, and whose qualifications have been repeatedly recognised, will recommend it as one of practical utility to all interested in shipbuilding."—*Army and Navy Gazette*.

Steam.

THE SAFE USE OF STEAM: containing Rules for Unprofessional Steam Users. By an ENGINEER.

N. B.—*This little work should be in the hands of every person having to deal with a Steam Engine of any kind.*

"If steam-users would but learn this little book by heart, and then hand it to their stokers to do the same, and see that the latter do it, boiler explosions would become sensations by their rarity."—*English Mechanic*.

ARCHITECTURE, &c.

Construction.

THE SCIENCE of BUILDING: An Elementary Treatise on the Principles of Construction. By E. WYNDHAM TARN, M.A., Architect. Illustrated with 47 Wood Engravings. Demy 8vo, price 8s. 6d. cloth.

[Recently published.]

"A very valuable book, which we strongly recommend to all students."—*Builder*.

"While Mr. Tarn's valuable little volume is quite sufficiently scientific to answer the purposes intended, it is written in a style that will deservedly make it popular. The diagrams are numerous and exceedingly well executed, and the treatise does credit alike to the author and the publisher."—*Engineer*.

"No architectural student should be without this hand-book of constructional knowledge."—*Architect*.

"The book is very far from being a mere compilation; it is an able digest of information which is only to be found scattered through various works, and contains more really original writing than many putting forth far stronger claims to originality."—*Engineering*.

Beaton's Pocket Estimator.

THE POCKET ESTIMATOR FOR THE BUILDING TRADES, being an easy method of estimating the various parts of a Building collectively, more especially applied to Carpenters' and Joiners' work, priced according to the present value of material and labour. By A. C. BEATON, Author of 'Quantities and Measurements.' 33 Woodcuts. Leather. Waistcoat-pocket size. 2s.

Beaton's Builders' and Surveyors' Technical Guide.

THE POCKET TECHNICAL GUIDE AND MEASURER FOR BUILDERS AND SURVEYORS: containing a Complete Explanation of the Terms used in Building Construction, Memoranda for Reference, Technical Directions for Measuring Work in all the Building Trades, with a Treatise on the Measurement of Timbers, and Complete Specifications for Houses, Roads, and Drains. By A. C. BEATON, Author of 'Quantities and Measurements.' With 19 Woodcuts. Leather. Waistcoat-pocket size. 2s.

Villa Architecture.

A HANDY BOOK of VILLA ARCHITECTURE; being a Series of Designs for Villa Residences in various Styles. With Detailed Specifications and Estimates. By C. WICKES, Architect, Author of "The Spires and Towers of the Mediaeval Churches of England," &c. First Series, consisting of 30 Plates; Second Series, 31 Plates. Complete in 1 vol. 4to, price 2l. 10s. half morocco. Either Series separate, price 1l. 7s. each, half morocco.

"The whole of the designs bear evidence of their being the work of an artistic architect, and they will prove very valuable and suggestive to architects, students, and amateurs."—*Building News*.

The Architect's Guide.

THE ARCHITECT'S GUIDE; or, Office and Pocket Companion for Engineers, Architects, Land and Building Surveyors, Contractors, Builders, Clerks of Works, &c. By W. DAVIS HASKOLL, C.E., R. W. BILLINGS, Architect, F. ROGERS, and P. THOMPSON. With numerous Experiments by G. RENNIE, C.E., &c. Woodcuts, 12mo, cloth, price 3s. 6d.

Architecture, Ancient and Modern.

RUDIMENTARY ARCHITECTURE, Ancient and Modern. Consisting of VITRUVIUS, translated by JOSEPH GWILT, F.S.A., &c., with 23 fine copper plates; GRECIAN Architecture, by the EARL of ABERDEEN; the ORDERS of Architecture, by W. H. LEEDS, Esq.; The STYLES of Architecture of Various Countries, by T. TALBOT BURY; The PRINCIPLES of DESIGN in Architecture, by E. L. GARBETT. In one handsome volume, half-bound (pp. 1,100), copiously illustrated, price 12s.

* * Sold separately, in two vols., as follows, price 6s. each, hf.-bd.

ANCIENT ARCHITECTURE. Containing Gwilt's Vitruvius and Aberdeen's Grecian Architecture.

N.B.—This is the only edition of VITRUVIUS procurable at a moderate price.

MODERN ARCHITECTURE. Containing the Orders, by Leeds; The Styles, by Bury; and Principles of Design, by Garbett.

The Young Architect's Book.

HINTS TO YOUNG ARCHITECTS. By GEORGE WIGHTWICK, Architect, Author of "The Palace of Architecture," &c. &c. New Edition, revised and enlarged. By G. HUSKISSON GUILLAUME, Architect. With numerous illustrations. 12mo. cloth boards, 4s. [Just Published.]

Drawing for Builders and Students.

PRACTICAL RULES ON DRAWING for the OPERATIVE BUILDER and YOUNG STUDENT in ARCHITECTURE. By GEORGE PYNE, Author of a "Rudimentary Treatise on Perspective for Beginners." With 14 Plates, 4to, 7s. 6d., boards.

CONTENTS.—I. Practical Rules on Drawing—Outlines. II. Ditto—the Grecian and Roman Orders. III. Practical Rules on Drawing—Perspective. IV. Practical Rules on Light and Shade. V. Practical Rules on Colour, &c. &c.

Cottages, Villas, and Country Houses.

DESIGNS and EXAMPLES of COTTAGES, VILLAS, and COUNTRY HOUSES; being the Studies of several eminent Architects and Builders; consisting of Plans, Elevations, and Perspective Views; with approximate Estimates of the Cost of each. In 4to, with 67 plates, price 17. 1s., cloth.

Builder's Price Book.

LOCKWOOD & CO.'S BUILDER'S AND CONTRACTOR'S PRICE BOOK—with which is incorporated ATCHLEY's, and portions of the late G. R. BURNELL's Builders' Price Books—for 1875, containing the latest prices of all kinds of Builders' Materials and Labour, and of all Trades connected with Building; with many useful and important Memoranda and Tables; Lists of the Members of the Metropolitan Board of Works, of Districts, District Officers, and District Surveyors, and the Metropolitan Bye-laws. The whole revised and edited by FRANCIS T. W. MILLER, Architect and Surveyor. Fcap. 8vo, strongly half-bound, price 4s.

Handbook of Specifications.

THE HANDBOOK OF SPECIFICATIONS; or, Practical Guide to the Architect, Engineer, Surveyor, and Builder, in drawing up Specifications and Contracts for Works and Constructions. Illustrated by Precedents of Buildings actually executed by eminent Architects and Engineers. Preceded by a Preliminary Essay, and Skeletons of Specifications and Contracts, &c., &c., and explained by numerous Lithograph Plates and Woodcuts. By Professor THOMAS L. DONALDSON, President of the Royal Institute of British Architects, Professor of Architecture and Construction, University College, London, M.I.B.A., Member of the various European Academies of the Fine Arts. With A REVIEW OF THE LAW OF CONTRACTS, and of the Responsibilities of Architects, Engineers, and Builders. By W. CUNNINGHAM GLEN, Barrister-at-Law, of the Middle Temple. 2 vols., 8vo, with upwards of 1100 pp. of text, and 33 Lithographic Plates, cloth, 2l. 2s. (Published at 4l.)

"In these two volumes of 1,100 pages (together), forty-four specifications of executed works are given, including the specifications for parts of the new Houses of Parliament, by Sir Charles Barry, and for the new Royal Exchange, by Mr. Tite, M.P.

"Amongst the other known buildings, the specifications of which are given, are the Wiltshire Lunatic Asylum (Wyatt and Brandon); Tothill Fields Prison (R. Abraham); the City Prison, Holloway (Bunning); the High School, Edinburgh (Hamilton); Clothworkers' Hall, London (Angel); Wellington College, Sandhurst (J. Shaw); Houses in Grosvenor Square, and elsewhere; St. George's Church, Doncaster (Scott); several works of smaller size by the Author, including Messrs. Shaw's Warehouse in Fetter Lane, a very successful elevation; the Newcastle-upon-Tyne Railway Station (J. Dobson); new Westminster Bridge (Page); the High Level Bridge, Newcastle (R. Stephenson); various works on the Great Northern Railway (Brydson); and one French specification for Houses in the Rue de Rivoli, Paris (M.M. Armand, Hittorff, Pellechet, and Rohault de Fleury, architects). The majority of the specifications have illustrations in the shape of elevations and plans.

"About 140 pages of the second volume are appropriated to an exposition of the law in relation to the legal liabilities of engineers, architects, contractors, and builders, by Mr. W. Cunningham Glen, Barrister-at-law. Donaldson's Handbook of Specifications must be bought by all architects."—*Builder*.

Specifications for Practical Architecture.

SPECIFICATIONS FOR PRACTICAL ARCHITECTURE: A Guide to the Architect, Engineer, Surveyor, and Builder; with an Essay on the Structure and Science of Modern Buildings. By FREDERICK ROGERS, Architect. With numerous Illustrations. Demy 8vo, price 15s., cloth. (Published at 1l. 10s.)

"* A volume of specifications of a practical character being greatly required, and the old standard work of Alfred Bartholomew being out of print, the author, on the basis of that work, has produced the above. Some of the specifications he has so altered as to bring in the now universal use of concrete, the improvements in drainage, the use of iron, glass, asphalt, and other material. He has also inserted specifications of works that have been erected in his own practice.

The House-Owner's Estimator.

THE HOUSE-OWNER'S ESTIMATOR; or, What will it Cost to Build, Alter, or Repair? A Price-Book adapted to the Use of Unprofessional People as well as for the Architectural Surveyor and Builder. By the late JAMES D. SIMON, A.R.I.B.A. Edited and Revised by FRANCIS T. W. MILLER, Surveyor. With numerous Illustrations. Second Edition, with the prices carefully revised to 1875. Crown 8vo, cloth, price 3s. 6d.

CARPENTRY, TIMBER, &c.

Tredgold's Carpentry, new, enlarged, and cheaper Edition.

THE ELEMENTARY PRINCIPLES OF CARPENTRY: a Treatise on the Pressure and Equilibrium of Timber Framing, the Resistance of Timber, and the Construction of Floors, Arches, Bridges, Roofs, Uniting Iron and Stone with Timber, &c. To which is added an Essay on the Nature and Properties of Timber, &c., with Descriptions of the Kinds of Wood used in Building; also numerous Tables of the Scantlings of Timber for different purposes, the Specific Gravities of Materials, &c. By THOMAS TREDGOLD, C.E. Edited by PETER BARLOW, F.R.S. Fifth Edition, corrected and enlarged. With 64 Plates (11 of which now first appear in this edition), Portrait of the Author, and several Woodcuts. In 1 vol., 4to, published at 2l. 2s., reduced to 1l. 5s., cloth.

"Tredgold's Carpentry" ought to be in every architect's and every builder's library, and those who do not already possess it ought to avail themselves of the new issue."—*Builder*.

"A work whose monumental excellence must commend it wherever skilful carpentry is concerned. The Author's principles are rather confirmed than impaired by time, and, as now presented, combine the surest base with the most interesting display of progressive science. The additional plates are of great intrinsic value."—*Building News*.

Grandy's Timber Tables.

THE TIMBER IMPORTER'S, TIMBER MERCHANT'S, and BUILDER'S STANDARD GUIDE. By RICHARD E. GRANDY. Comprising:—An Analysis of Deal Standards, Home and Foreign, with comparative Values and Tabular Arrangements for Fixing Nett Landed Cost on Baltic and North American Deals, including all intermediate Expenses, Freight, Insurance, Duty, &c., &c.; together with Copious Information for the Retailer and Builder. 12mo, price 7s. 6d. cloth.

"Everything it pretends to be: built up gradually, it leads one from a forest to a treenail, and throws in, as a makeweight, a host of material concerning bricks, columns, cisterns, &c.—all that the class to whom it appeals requires."—*English Mechanic*.

"The only difficulty we have is as to what is NOT in its pages. What we have tested of the contents, taken at random, is invariably correct."—*Illustrated Builder's Journal*.

Tables for Packing-Case Makers.

PACKING-CASE TABLES; showing the number of Superficial Feet in Boxes or Packing-Cases, from six inches square and upwards. Compiled by WILLIAM RICHARDSON, Accountant. Oblong 4to, cloth, price 3s. 6d.

"Will save much labour and calculation to packing-case makers and those who use packing-cases."—*Grocer*. "Invaluable labour-saving tables."—*Ironmonger*.

Nicholson's Carpenter's Guide.

THE CARPENTER'S NEW GUIDE; or, BOOK of LINES for CARPENTERS: comprising all the Elementary Principles essential for acquiring a knowledge of Carpentry. Founded on the late PETER NICHOLSON'S standard work. A new Edition, revised by ARTHUR ASHPITEL, F.S.A., together with Practical Rules on Drawing, by GEORGE PYNE. With 74 Plates, 4to, 1l. 1s. cloth.

Dowsing's Timber Merchant's Companion.

THE TIMBER MERCHANT'S AND BUILDER'S COMPANION; containing New and Copious Tables of the Reduced Weight and Measurement of Deals and Battens, of all sizes, from One to a Thousand Pieces, and the relative Price that each size bears per Lineal Foot to any given Price per Petersburg Standard Hundred; the Price per Cube Foot of Square Timber to any given Price per Load of 50 Feet; the proportionate Value of Deals and Battens by the Standard, to Square Timber by the Load of 50 Feet; the readiest mode of ascertaining the Price of Scantling per Lineal Foot of any size, to any given Figure per Cube Foot. Also a variety of other valuable information. By WILLIAM DOWSING, Timber Merchant. Second Edition. Crown 8vo, 3s. cloth.

"Everything is as concise and clear as it can possibly be made. There can be no doubt that every timber merchant and builder ought to possess it."—*Hull Advertiser*.

Timber Freight Book.

THE TIMBER IMPORTERS' AND SHIPOWNERS' FREIGHT BOOK: Being a Comprehensive Series of Tables for the Use of Timber Importers, Captains of Ships, Shipbrokers, Builders, and all Dealers in Wood whatsoever. By WILLIAM RICHARDSON, Timber Broker, author of "Packing Case Tables," &c. Crown 8vo, cloth, price 6s.

MECHANICS, &c.

Horton's Measurer.

THE COMPLETE MEASURER; setting forth the Measurement of Boards, Glass, &c., &c.; Unequal-sided, Square-sided, Octagonal-sided, Round Timber and Stone, and Standing Timber. With just allowances for the bark in the respective species of trees, and proper deductions for the waste in hewing the trees, &c.; also a Table showing the solidity of hewn or eight-sided timber, or of any octagonal-sided column. Compiled for the accommodation of Timber-growers, Merchants, and Surveyors, Stonemasons, Architects, and others. By RICHARD HORTON. Second edition, with considerable and valuable additions, 12mo, strongly bound in leather, 5s.

"The office of the architect, engineer, building surveyor, or land agent that is without this excellent and useful work cannot truly be considered perfect in its furnishing."—*Irish Builder*.

"We have used the improved and other tables in this volume, and have not observed any unfairness or inaccuracy."—*Builder*.

"The tables we have tested are accurate. . . . To the builder and estate agents this work will be most acceptable."—*British Architect*.

"Not only are the best methods of measurement shown, and in some instances illustrated by means of woodcuts, but the erroneous systems pursued by dishonest dealers are fully exposed. . . . The work must be considered to be a valuable addition to every gardener's library."—*Garden*.

Superficial Measurement.

THE TRADESMAN'S GUIDE TO SUPERFICIAL MEASUREMENT. Tables calculated from 1 to 200 inches in length, by 1 to 108 inches in breadth. For the use of Architects, Surveyors, Engineers, Timber Merchants, Builders, &c. By JAMES HAWKINGS. Fcp. 3s. 6d. cloth.

Mechanic's Workshop Companion.

THE OPERATIVE MECHANIC'S WORKSHOP COMPANION, and THE SCIENTIFIC GENTLEMAN'S PRACTICAL ASSISTANT; comprising a great variety of the most useful Rules in Mechanical Science; with numerous Tables of Practical Data and Calculated Results. By W. TEMPLETON, Author of "The Engineer's, Millwright's, and Machinist's Practical Assistant." Eleventh Edition, with Mechanical Tables for Operative Smiths, Millwrights, Engineers, &c.; together with several Useful and Practical Rules in Hydraulics and Hydrodynamics, a variety of Experimental Results, and an Extensive Table of Powers and Roots. 11 Plates. 12mo, 5s. bound.

"As a text-book of reference, in which mechanical and commercial demands are judiciously met, TEMPLETON'S COMPANION stands unrivalled."—*Mechanics Magazine*.

"Admirably adapted to the wants of a very large class. It has met with great success in the engineering workshop, as we can testify; and there are a great many men who, in a great measure, owe their rise in life to this little work."—*Building News*.

Engineer's Assistant.

THE ENGINEER'S, MILLWRIGHT'S, and MACHINIST'S PRACTICAL ASSISTANT; comprising a Collection of Useful Tables, Rules, and Data. Compiled and Arranged, with Original Matter, by W. TEMPLETON. 5th Edition. 18mo, 2s. 6d. cloth.

"So much varied information compressed into so small a space, and published at a price which places it within the reach of the humblest mechanic, cannot fail to command the sale which it deserves. With the utmost confidence we commend this book to the attention of our readers."—*Mechanics Magazine*.

"Every mechanic should become the possessor of the volume, and a more suitable present to an apprentice to any of the mechanical trades could not possibly be made."—*Building News*.

Designing, Measuring, and Valuing.

THE STUDENT'S GUIDE to the PRACTICE of MEASURING, and VALUING ARTIFICERS' WORKS; containing Directions for taking Dimensions, Abstracting the same, and bringing the Quantities into Bill, with Tables of Constants, and copious Memoranda for the Valuation of Labour and Materials in the respective Trades of Bricklayer and Slater, Carpenter and Joiner, Painter and Glazier, Paperhanger, &c. With 43 Plates and Woodcuts. Originally edited by EDWARD DOBSON, Architect. New Edition, re-written, with Additions on Mensuration and Construction, and useful Tables for facilitating Calculations and Measurements. By E. WYNDHAM TARN, M.A., 8vo, 10s. 6d. cloth.

"This useful book should be in every architect's and builder's office. It contains a vast amount of information absolutely necessary to be known."—*The Irish Builder*.

"We have failed to discover anything connected with the building trade, from excavating foundations to bell-hanging, that is not fully treated upon in this valuable work."—*The Artisan*.

"Mr. Tarn has well performed the task imposed upon him, and has made many further and valuable additions, embodying a large amount of information relating to the technicalities and modes of construction employed in the several branches of the building trade."—*Colliery Guardian*.

"Altogether the book is one which well fulfils the promise of its title-page, and we can thoroughly recommend it to the class for whose use it has been compiled. Mr. Tarn's additions and revisions have much increased the usefulness of the work, and have especially augmented its value to students."—*Engineering*.

MATHEMATICS, &c.

Gregory's Practical Mathematics.

MATHEMATICS for PRACTICAL MEN ; being a Common-place Book of Pure and Mixed Mathematics. Designed chiefly for the Use of Civil Engineers, Architects, and Surveyors. Part I. PURE MATHEMATICS—comprising Arithmetic, Algebra, Geometry, Mensuration, Trigonometry, Conic Sections, Properties of Curves. Part II. MIXED MATHEMATICS—comprising Mechanics in general, Statics, Dynamics, Hydrostatics, Hydrodynamics, Pneumatics, Mechanical Agents, Strength of Materials. With an Appendix of copious Logarithmic and other Tables. By OLINTHUS GREGORY, LL.D., F.R.A.S. Enlarged by HENRY LAW, C.E. 4th Edition, carefully revised and corrected by J. R. YOUNG, formerly Professor of Mathematics, Belfast College ; Author of "A Course of Mathematics," &c. With 13 Plates. Medium 8vo, 17. 1s. cloth.

"As a standard work on mathematics it has not been excelled."—*Artisan*.

"The engineer or architect will here find ready to his hand, rules for solving nearly every mathematical difficulty that may arise in his practice. As a moderate acquaintance with arithmetic, algebra, and elementary geometry is absolutely necessary to the proper understanding of the most useful portions of this book, the author very wisely has devoted the first three chapters to those subjects, so that the most ignorant may be enabled to master the whole of the book, without aid from any other. The rules are in all cases explained by means of examples, in which every step of the process is clearly worked out."—*Builder*.

"One of the most serviceable books to the practical mechanics of the country. . . . The edition of 1847 was fortunately entrusted to the able hands of Mr. Law, who revised it thoroughly, re-wrote many chapters, and added several sections to those which had been rendered imperfect by advanced knowledge. On examining the various and many improvements which he introduced into the work, they seem almost like a new structure on an old plan, or rather like the restoration of an old ruin, not only to its former substance, but to an extent which meets the larger requirements of modern times. . . . In the edition just brought out, the work has again been revised by Professor Young. He has modernised the notation throughout, introduced a few paragraphs here and there, and corrected the numerous typographical errors which have escaped the eyes of the former Editor. The book is now as complete as it is possible to make it. . . . We have carried our notice of this book to a greater length than the space allowed us justified, but the experiments it contains are so interesting, and the method of describing them so clear, that we may be excused for overstepping our limit. It is an instructive book for the student, and a Text-book for him who having once mastered the subjects it treats of, needs occasionally to refresh his memory upon them."—*Building News*.

The Metric System.

A SERIES OF METRIC TABLES, in which the British Standard Measures and Weights are compared with those of the Metric System at present in use on the Continent. By C. H. DOWLING, C. E. Second Edition, revised and enlarged. 8vo, 10s. 6d. strongly bound.

"Mr. Dowling's Tables, which are well put together, come just in time as a ready reckoner for the conversion of one system into the other."—*Athenæum*.

"Their accuracy has been certified by Professor Airy, the Astronomer-Royal."—*Builder*.

"Resolution 8.—That advantage will be derived from the recent publication of Metric Tables, by C. H. Dowling, C.E."—*Report of Section F, British Association, Bath*.

Inwood's Tables, greatly enlarged and improved.

TABLES FOR THE PURCHASING of ESTATES, Freehold, Copyhold, or Leasehold; Annuities, Advowsons, &c., and for the Renewing of Leases held under Cathedral Churches, Colleges, or other corporate bodies; for Terms of Years certain, and for Lives; also for Valuing Reversionary Estates, Deferred Annuities, Next Presentations, &c., together with Smart's Five Tables of Compound Interest, and an Extension of the same to Lower and Intermediate Rates. By WILLIAM INWOOD, Architect. The 19th edition, with considerable additions, and new and valuable Tables of Logarithms for the more Difficult Computations of the Interest of Money, Discount, Annuities, &c., by M. FÉDOR THOMAN, of the Société Crédit Mobilier of Paris. 12mo, 8s. cloth.

"* This edition (the 19th) differs in many important particulars from former ones. The changes consist, first, in a more convenient and systematic arrangement of the original Tables, and in the removal of certain numerical errors which a very careful revision of the whole has enabled the present editor to discover; and secondly, in the extension of practical utility conferred on the work by the introduction of Tables now inserted for the first time. This new and important matter is all so much actually added to INWOOD'S TABLES; nothing has been abstracted from the original collection: so that those who have been long in the habit of consulting INWOOD for any special professional purpose will, as heretofore, find the information sought still in its pages.

"Those interested in the purchase and sale of estates, and in the adjustment of compensation cases, as well as in transactions in annuities, life insurances, &c., will find the present edition of eminent service."—*Engineering*.

Geometry for the Architect, Engineer, &c.

PRACTICAL GEOMETRY, for the Architect, Engineer, and Mechanic; giving Rules for the Delineation and Application of various Geometrical Lines, Figures and Curves. By E. W. TARN, M.A., Architect, Author of "The Science of Building," &c. With 164 Illustrations. Demy 8vo. 12s. 6d.

"No book with the same objects in view has ever been published in which the clearness of the rules laid down and the illustrative diagrams have been so satisfactory."—*Scotsman*.

Compound Interest and Annuities.

THEORY of COMPOUND INTEREST and ANNUITIES; with Tables of Logarithms for the more Difficult Computations of Interest, Discount, Annuities, &c., in all their Applications and Uses for Mercantile and State Purposes. With an elaborate Introduction. By FÉDOR THOMAN, of the Société Crédit Mobilier, Paris. 12mo, cloth, 5s.

"A very powerful work, and the Author has a very remarkable command of his subject."—*Professor A. de Morgan*.

"We recommend it to the notice of actuaries and accountants."—*Athenæum*.

SCIENCE AND ART.

The Military Sciences.

AIDE-MÉMOIRE to the MILITARY SCIENCES. Framed from Contributions of Officers and others connected with the different Services. Originally edited by a Committee of the Corps of Royal Engineers. Second Edition, most carefully revised by an Officer of the Corps, with many additions; containing nearly 350 Engravings and many hundred Woodcuts. 3 vols. royal 8vo, extra cloth boards, and lettered, price 4*l.* 10*s.*

"A compendious encyclopædia of military knowledge, to which we are greatly indebted."—*Edinburgh Review*.

"The most comprehensive work of reference to the military and collateral sciences. Among the list of contributors, some seventy-seven in number, will be found names of the highest distinction in the services."—*Volunteer Service Gazette*.

Field Fortification.

A TREATISE on FIELD FORTIFICATION, the ATTACK of FORTRESSES, MILITARY, MINING, and RECONNOITRING. By Colonel I. S. MACAULAY, late Professor of Fortification in the R. M. A., Woolwich. Sixth Edition, crown 8vo, cloth, with separate Atlas of 12 Plates, price 12*s.* complete.

Naval Science.

NAVAL SCIENCE: a Quarterly Magazine for Promoting the Improvement of Naval Architecture, Marine Engineering, Steam Navigation, Seamanship. Edited by E. J. REED, C.B., M.P., and late Chief Constructor of the Navy, and JOSEPH WOOLLEY, M.A., LL.D., F.R.A.S. Copiously illustrated. Price 2*s.* 6*d.* Now ready, Vols. II. & III., each containing 4 Nos. cloth boards, price 12*s.* 6*d.* each.

* * * *The Contributors include the most Eminent Authorities in the several branches of the above subjects.*

Dye-Wares and Colours.

THE MANUAL of COLOURS and DYE-WARES: their Properties, Applications, Valuation, Impurities, and Sophistications. For the Use of Dyers, Printers, Dry Salters, Brokers, &c. By J. W. SLATER. Post 8vo, cloth, price 7*s.* 6*d.*

"A complete encyclopædia of the *materia tinctoria*. The information given respecting each article is full and precise, and the methods of determining the value of articles such as these, so liable to sophistication, are given with clearness, and are practical as well as valuable."—*Chemist and Druggist*.

Electricity.

A MANUAL of ELECTRICITY; including Galvanism, Magnetism, Diamagnetism, Electro-Dynamics, Magneto-Electricity, and the Electric Telegraph. By HENRY M. NOAD, Ph.D., F.C.S., Lecturer on Chemistry at St. George's Hospital. Fourth Edition, entirely rewritten. Illustrated by 500 Woodcuts. 8vo, 1*l.* 4*s.* cloth.

"The commendations already bestowed in the pages of the *Lancet* on the former editions of this work are more than ever merited by the present. The accounts given of electricity and galvanism are not only complete in a scientific sense, but, which is a rarer thing, are popular and interesting."—*Lancet*.

Text-Book of Electricity.

THE STUDENT'S TEXT-BOOK OF ELECTRICITY: including Magnetism, Voltaic Electricity, Electro-Magnetism, Diamagnetism, Magneto-Electricity, Thermo-Electricity, and Electric Telegraphy. Being a Condensed Résumé of the Theory and Application of Electrical Science, including its latest Practical Developments, particularly as relating to Aërial and Submarine Telegraphy. By HENRY M. NOAD, Ph.D., Lecturer on Chemistry at St. George's Hospital. Post 8vo, 400 Illustrations, 12s. 6d. cloth.

"We can recommend Dr. Noad's book for clear style, great range of subject, a good index, and a plethora of woodcuts."—*Athenæum*.

"A most elaborate compilation of the facts of electricity and magnetism, and of the theories which have been advanced concerning them."—*Popular Science Review*.

"Clear, compendious, compact, well illustrated, and well printed."—*Lancet*.

"We can strongly recommend the work, as an admirable text-book, to every student—beginner or advanced—of electricity."—*Engineering*.

"Nothing of value has been passed over, and nothing given but what will lead to a correct, and even an exact, knowledge of the present state of electrical science."—*Mechanics' Magazine*.

"We know of no book on electricity containing so much information on experimental facts as this does, for the size of it, and no book of any size that contains so complete a range of facts."—*English Mechanic*.

Rudimentary Magnetism.

RUDIMENTARY MAGNETISM: being a concise exposition of the general principles of Magnetical Science, and the purposes to which it has been applied. By Sir W. SNOW HARRIS, F.R.S. New and enlarged Edition, with considerable additions by Dr. NOAD, Ph.D. With 165 Woodcuts. 12mo, cloth, 4s. 6d.

"There is a good index, and this volume of 412 pages may be considered the best possible manual on the subject of magnetism."—*Mechanics' Magazine*.

"As concise and lucid an exposition of the phenomena of magnetism as we believe it is possible to write."—*English Mechanic*.

"Not only will the scientific student find this volume an invaluable book of reference, but the general reader will find in it as much to interest as to inform his mind. Though a strictly scientific work, its subject is handled in a simple and readable style."—*Illustrated Review*.

Chemical Analysis.

THE COMMERCIAL HANDBOOK of CHEMICAL ANALYSIS; or Practical Instructions for the determination of the Intrinsic or Commercial Value of Substances used in Manufactures, in Trades, and in the Arts. By A. NORMANDY, Author of "Practical Introduction to Rose's Chemistry," and Editor of Rose's "Treatise of Chemical Analysis." *New Edition*. Enlarged, and to a great extent re-written, by Henry M. Noad, Ph.D., F.R.S. With numerous Illustrations. Crown 8vo, 12s. 6d. cloth.

[Just ready.]

"We recommend this book to the careful perusal of every one; it may be truly affirmed to be of universal interest, and we strongly recommend it to our readers as a guide, alike indispensable to the housewife as to the pharmaceutical practitioner."—*Medical Times*.

"The very best work on the subject the English press has yet produced."—*Mechanics' Magazine*.

Clocks, Watches, and Bells.

RUDIMENTARY TREATISE on CLOCKS, WATCHES, and BELLS. By Sir EDMUND BECKETT, Bart. (late E. B. Denison), LL.D., Q.C., F.R.A.S., Author of "Astronomy without Mathematics," &c. Sixth edition, thoroughly revised and enlarged, with numerous Illustrations. Limp cloth (No. 67, Weale's Series), 4s. 6d.; cloth boards, 5s. 6d.

"As a popular, and, at the same time, practical treatise on clocks and bells, it is unapproached."—*English Mechanic*.

"The best work on the subject probably extant . . . So far as we know it has no competitor worthy of the name. The treatise on bells is undoubtedly the best in the language. It shows that the author has contributed very much to their modern improvement, if indeed he has not revived this art, which was decaying here . . . To call it a rudimentary treatise is a misnomer, at least as respects clocks and bells. It is something more. It is the most important work of its kind in English."—*Engineering*.

"The only modern treatise on clock-making."—*Horological Journal*.

"Without having any special interest in the subject, and even without possessing any general aptitude for mechanical studies, a reader must be very unintelligent who cannot find matter to engage his attention in this work. The little book now appears revised and enlarged, being one of the most praiseworthy volumes in Weale's admirable scientific and educational series."—*Daily Telegraph*.

"We do not know whether to wonder most at the extraordinary cheapness of this admirable treatise on clocks, by the most able authority on such a subject, or the thorough completeness of his work even to the minutest details. The chapter on bells is singular and amusing, and will be a real treat even to the uninitiated general reader. The illustrations, notes, and indices, make the work completely perfect of its kind."—*Standard*.

"There is probably no book in the English language on a technical subject so easy to read, and to read through, as the treatise on clocks, watches, and bells, written by the eminent Parliamentary Counsel, Mr. E. B. Denison—now Sir Edmund Beckett, Bart."—*Architect*.

Science and Scripture.

SCIENCE ELUCIDATIVE OF SCRIPTURE, AND NOT ANTAGONISTIC TO IT; being a Series of Essays on—1. Alleged Discrepancies; 2. The Theory of the Geologists and Figure of the Earth; 3. The Mosaic Cosmogony; 4. Miracles in general—Views of Hume and Powell; 5. The Miracle of Joshua—Views of Dr. Colenso: The Supernaturally Impossible; 6. The Age of the Fixed Stars—their Distances and Masses. By Professor J. R. YOUNG, Author of "A Course of Elementary Mathematics," &c. &c. Fcap. 8vo, price 5s. cloth lettered.

"Professor Young's examination of the early verses of Genesis, in connection with modern scientific hypotheses, is excellent."—*English Churchman*.

"Distinguished by the true spirit of scientific inquiry, by great knowledge, by keen logical ability, and by a style peculiarly clear, easy, and energetic."—*Nonconformist*.

"No one can rise from its perusal without being impressed with a sense of the singular weakness of modern scepticism."—*Baptist Magazine*.

"A valuable contribution to controversial theological literature."—*City Press*.

Practical Philosophy.

A SYNOPSIS of PRACTICAL PHILOSOPHY. By the Rev. JOHN CARR, M.A., late Fellow of Trin. Coll., Cambridge. Second Edition. 18mo, 5s. cloth.

Dr. Lardner's Museum of Science and Art.

THE MUSEUM OF SCIENCE AND ART. Edited by DIONYSIUS LARDNER, D.C.L., formerly Professor of Natural Philosophy and Astronomy in University College, London. CONTENTS: The Planets; are they inhabited Worlds?—Weather Prognostics—Popular Fallacies in Questions of Physical Science—Latitudes and Longitudes—Lunar Influences—Meteoric Stones and Shooting Stars—Railway Accidents—Light—Common Things:—Air—Locomotion in the United States—Cometary Influences—Common Things: Water—The Potter's Art—Common Things: Fire—Locomotion and Transport, their Influence and Progress—The Moon—Common Things: The Earth—The Electric Telegraph—Terrestrial Heat—The Sun—Earthquakes and Volcanoes—Barometer, Safety Lamp, and Whitworth's Micrometric Apparatus—Steam—The Steam Engine—The Eye—The Atmosphere—Time—Common Things: Pumps—Common Things: Spectacles, the Kaleidoscope—Clocks and Watches—Microscopic Drawing and Engraving—Locomotive—Thermometer—New Planets: Leverrier and Adams's Planet—Magnitude and Minuteness—Common Things: The Almanack—Optical Images—How to observe the Heavens—Common Things: the Looking-glass—Stellar Universe—The Tides—Colour—Common Things: Man—Magnifying Glasses—Instinct and Intelligence—The Solar Microscope—The Camera Lucida—The Magic Lantern—The Camera Obscura—The Microscope—The White Ants: their Manners and Habits—The Surface of the Earth, or First Notions of Geography—Science and Poetry—The Bee—Steam Navigation—Electro-Motive Power—Thunder, Lightning, and the Aurora Borealis—The Printing Press—The Crust of the Earth—Comets—The Stereoscope—The Pre-Adamite Earth—Eclipses—Sound. With upwards of 1200 Engravings on Wood. In 6 Double Volumes, handsomely bound in cloth, gilt, price £1 1s.

"The 'Museum of Science and Art' is the most valuable contribution that has ever been made to the Scientific Instruction of every class of society."—*Sir David Brewster in the North British Review.*

"Whether we consider the liberality and beauty of the illustrations, the charm of the writing, or the durable interest of the matter, we must express our belief that there is hardly to be found among the new books, one that would be welcomed by people of so many ages and classes as a valuable present."—*Examiner.*

* * *Separate books formed from the above, suitable for Workmen's Libraries, Science Classes, &c.*

COMMON THINGS EXPLAINED. With 233 Illustrations, 5s. cloth.

THE ELECTRIC TELEGRAPH POPULARIZED. 100 Illustrations, 1s. 6d. cloth.

THE MICROSCOPE. With 147 Illustrations, 2s. cloth.

POPULAR GEOLOGY. With 201 Illustrations, 2s. 6d. cloth.

POPULAR PHYSICS. With 85 Illustrations. 2s. 6d. cloth.

POPULAR ASTRONOMY. With 182 Illustrations, 4s. 6d. cloth.

STEAM AND ITS USES. With 89 Illustrations, 2s. cloth.

THE BEE AND WHITE ANTS. With 135 Illustrations, cloth, 2s.

DR. LARDNER'S SCIENTIFIC HANDBOOKS.

Astronomy.

THE HANDBOOK OF ASTRONOMY. By DIONYSIUS LARDNER, D.C.L., formerly Professor of Natural Philosophy and Astronomy in University College, London. Third Edition. Revised and Edited by EDWIN DUNKEN, F.R.A.S., Superintendent of the Altazimuth Department, Royal Observatory, Greenwich. With 37 plates and upwards of 100 Woodcuts. In 1 vol., small 8vo, cloth, 550 pages, price 7s. 6d.

"We can cordially recommend it to all those who desire to possess a complete manual of the science and practice of astronomy."—*Astronomical Reporter*.

Optics.

THE HANDBOOK OF OPTICS. New Edition. Edited by T. OLVER HARDING, B.A. Lond., of University College, London. With 298 Illustrations. Small 8vo, cloth, 448 pages, price 5s.

Electricity.

THE HANDBOOK OF ELECTRICITY, MAGNETISM, and ACOUSTICS. New Edition. Edited by GEO. CAREY FOSTER, B.A., F.C.S. With 400 Illustrations. Small 8vo, cloth, price 5s.

"The book could not have been entrusted to any one better calculated to preserve the terse and lucid style of Lardner, while correcting his errors and bringing up his work to the present state of scientific knowledge."—*Popular Science Review*.

Mechanics.

THE HANDBOOK OF MECHANICS. [Reprinting.

Hydrostatics.

THE HANDBOOK OF HYDROSTATICS and PNEUMATICS. New Edition, Revised and Enlarged by BENJAMIN LOEWY, F.R.A.S. With numerous Illustrations. 5s. [Just published.

Heat.

THE HANDBOOK OF HEAT. New Edition, Re-written and Enlarged. By BENJAMIN LOEWY, F.R.A.S. [Preparing.

Animal Physics.

THE HANDBOOK OF ANIMAL PHYSICS. With 520 Illustrations. New edition, small 8vo, cloth, 7s. 6d. 732 pages. [Just published.

Electric Telegraph.

THE ELECTRIC TELEGRAPH. New Edition. Revised and Re-written by E. B. BRIGHT, F.R.A.S. 140 Illustrations. Small 8vo, 2s. 6d. cloth.

"One of the most readable books extant on the Electric Telegraph."—*Eng. Mechanic*.

NATURAL PHILOSOPHY FOR SCHOOLS. By DR. LARDNER. 328 Illustrations. Fifth Edition. 1 vol. 3s. 6d. cloth.

"A very convenient class-book for junior students in private schools. It is intended to convey, in clear and precise terms, general notions of all the principal divisions of Physical Science."—*British Quarterly Review*.

ANIMAL PHYSIOLOGY FOR SCHOOLS. By DR. LARDNER. With 190 Illustrations. 1 vol. 3s. 6d. cloth.

"Clearly written, well arranged."

—*Gardener's Chronicle*.

Geology and Genesis Harmonised.

THE TWIN RECORDS of CREATION; or, Geology and Genesis, their Perfect Harmony and Wonderful Concord. By GEORGE W. VICTOR LE VAUX. With numerous Illustrations. Fcap. 8vo, price 5s. cloth.

"We can recommend Mr. Le Vaux as an able and interesting guide to a popular appreciation of geological science."—*Spectator*.

"The author combines an unbounded admiration of science with an unbounded admiration of the Written Record. The two impulses are balanced to a nicety; and the consequence is, that difficulties, which to minds less evenly poised, would be serious, find immediate solutions of the happiest kinds."—*London Review*.

"Vigorously written, reverent in spirit, stored with instructive geological facts, and designed to show that there is no discrepancy or inconsistency between the Word and the works of the Creator. The future of Nature, in connexion with the glorious destiny of man, is vividly conceived."—*Watchman*.

"No real difficulty is shirked, and no sophistry is left unexposed."—*The Rock*.

Geology, Physical.

PHYSICAL GEOLOGY. (Partly based on Major-General Portlock's Rudiments of Geology.) By RALPH TATE, A.L.S., F.G.S. Numerous Woodcuts. 12mo, 2s. [Ready.]

Geology, Historical.

HISTORICAL GEOLOGY. (Partly based on Major-General Portlock's Rudiments of Geology.) By RALPH TATE, A.L.S., F.G.S. Numerous Woodcuts. 12mo, 2s. 6d. [Ready.]

* * Or PHYSICAL and HISTORICAL GEOLOGY, bound in One Volume, price 5s.

Wood-Carving.

INSTRUCTIONS in WOOD-CARVING, for Amateurs; with Hints on Design. By A LADY. In emblematic wrapper, handsomely printed, with Ten large Plates, price 2s. 6d.

"The handicraft of the wood-carver, so well as a book can impart it, may be learnt from 'A Lady's' publication."—*Athenæum*.

"A real practical guide. It is very complete."—*Literary Churchman*.

"The directions given are plain and easily understood, and it forms a very good introduction to the practical part of the carver's art."—*English Mechanic*.

Popular Work on Painting.

PAINTING POPULARLY EXPLAINED; with Historical Sketches of the Progress of the Art. By THOMAS JOHN GULLICK, Painter, and JOHN TIMBS, F.S.A. Second Edition, revised and enlarged. With Frontispiece and Vignette. In small 8vo, 6s. cloth.

* * This Work has been adopted as a Prize-book in the Schools of Art at South Kensington.

"A work that may be advantageously consulted. Much may be learned, even by those who fancy they do not require to be taught, from the careful perusal of this unpretending but comprehensive treatise."—*Art Journal*.

"A valuable book, which supplies a want. It contains a large amount of original matter, agreeably conveyed, and will be found of value, as well by the young artist seeking information as by the general reader. We give a cordial welcome to the book, and augur for it an increasing reputation."—*Builder*.

"This volume is one that we can heartily recommend to all who are desirous of understanding what they admire in a good painting."—*Daily News*.

Delamotte's Works on Illumination & Alphabets.

A PRIMER OF THE ART OF ILLUMINATION; for the use of Beginners: with a Rudimentary Treatise on the Art, Practical Directions for its Exercise, and numerous Examples taken from Illuminated MSS., printed in Gold and Colours. By F. DELAMOTTE. Small 4to, price 9s. Elegantly bound, cloth antique.

"A handy book, beautifully illustrated; the text of which is well written, and calculated to be useful. . . . The examples of ancient MSS. recommended to the student, which, with much good sense, the author chooses from collections accessible to all, are selected with judgment and knowledge, as well as taste."—*Athenæum*.

ORNAMENTAL ALPHABETS, ANCIENT and MEDIÆVAL; from the Eighth Century, with Numerals; including Gothic, Church-Text, large and small, German, Italian, Arabesque, Initials for Illumination, Monograms, Crosses, &c. &c., for the use of Architectural and Engineering Draughtsmen, Missal Painters, Masons, Decorative Painters, Lithographers, Engravers, Carvers, &c. &c. &c. Collected and engraved by F. DELAMOTTE, and printed in Colours. Royal 8vo, oblong, price 4s. cloth.

"A well-known engraver and draughtsman has enrolled in this useful book the result of many years' study and research. For those who insert enamelled sentences round gilded chalices, who blazon shop legends over shop-doors, who letter church walls with pithy sentences from the Decalogue, this book will be useful."—*Athenæum*.

EXAMPLES OF MODERN ALPHABETS, PLAIN and ORNAMENTAL; including German, Old English, Saxon, Italic, Perspective, Greek, Hebrew, Court Hand, Engrossing, Tuscan, Riband, Gothic, Rustic, and Arabesque; with several Original Designs, and an Analysis of the Roman and Old English Alphabets, large and small, and Numerals, for the use of Draughtsmen, Surveyors, Masons, Decorative Painters, Lithographers, Engravers, Carvers, &c. Collected and engraved by F. DELAMOTTE, and printed in Colours. Royal 8vo, oblong, price 4s. cloth.

"To artists of all classes, but more especially to architects and engravers, this very handsome book will be invaluable. There is comprised in it every possible shape into which the letters of the alphabet and numerals can be formed, and the talent which has been expended in the conception of the various plain and ornamental letters is wonderful."—*Standard*.

MEDIÆVAL ALPHABETS and INITIALS FOR ILLUMINATORS. By F. DELAMOTTE, Illuminator, Designer, and Engraver on Wood. Containing 21 Plates, and Illuminated Title, printed in Gold and Colours. With an Introduction by J. WILLIS BROOKS. Small 4to, 6s. cloth gilt.

"A volume in which the letters of the alphabet come forth glorified in gilding and all the colours of the prism interwoven and intertwined and intermingled, sometimes with a sort of rainbow arabesque. A poem emblazoned in these characters would be only comparable to one of those delicious love letters symbolized in a bunch of flowers well selected and cleverly arranged."—*Sun*.

THE EMBROIDERER'S BOOK OF DESIGN; containing Initials, Emblems, Cyphers, Monograms, Ornamental Borders, Ecclesiastical Devices, Mediæval and Modern Alphabets, and National Emblems. Collected and engraved by F. DELAMOTTE, and printed in Colours. O

ornamental boards.

AGRICULTURE, &c.

Youatt and Burn's Complete Grazier.

THE COMPLETE GRAZIER, and FARMER'S and CATTLE-BREEDER'S ASSISTANT. A Compendium of Husbandry.

By WILLIAM YOUATT, ESQ., V.S. 11th Edition, enlarged by ROBERT SCOTT BURN, Author of "The Lessons of My Farm," &c.

One large 8vo volume, 784 pp. with 215 Illustrations. 17. 1s. half-bd.

"The standard and text-book, with the farmer and grazier."—*Farmer's Magazine*.

"A valuable repertory of intelligence for all who make agriculture a pursuit, and especially for those who aim at keeping pace with the improvements of the age."—*Bell's Weekly Messenger*.

"A treatise which will remain a standard work on the subject as long as British agriculture endures."—*Mark Lane Express*.

"One of the best books of reference that can be contained in the agriculturist's library. The word 'complete' expresses its character; since every detail of the subject finds a place, treated upon, and explained, in a clear, comprehensive, and practical manner."—*Magnet*.

Spooner on Sheep.

SHEEP; THE HISTORY, STRUCTURE, ECONOMY, AND DISEASES OF. By W. C. SPOONER, M.R.V.C., &c.

Third Edition, considerably enlarged; with numerous fine engravings, including some specimens of New and Improved Breeds.

Fcp. 8vo. 366 pp., price 6s. cloth. (*Just published.*)

"The book is decidedly the best of the kind in our language."—*Scotsman*.

"A reliable text-book."—*Stamford Mercury*.

"Mr. Spooner has conferred upon the agricultural class a lasting benefit by embodying in this work the improvements made in sheep stock by such men as Humphreys, Rawlence, Howard, and others."—*Hampshire Advertiser*.

"The work should be in possession of every flock-master."—*Bandbury Guardian*.

"We can confidently recommend the work as useful and reliable, and of much practical utility to the class for whom it is intended."—*Salisbury and Winchester Journal*.

"Mr. Spooner has conferred a boon on agriculturists generally, and the farmer's library will be incomplete which does not include so admirable a guide to a very important branch of the business."—*Dorset County Chronicle*.

Scott Burn's System of Modern Farming.

OUTLINE OF MODERN FARMING. By R. SCOTT BURN.

Soils, Manures, and Crops—Farming and Farming Economy, Historical and Practical—Cattle, Sheep, and Horses—Management

of the Dairy, Pigs, and Poultry, with Notes on the Diseases of Stock—Utilisation of Town-Sewage, Irrigation, and Reclamation

of Waste Land. New Edition. In 1 vol. 1250 pp., half-bound, profusely Illustrated, price 12s.

"There is sufficient stated within the limits of this treatise to prevent a farmer from going far wrong in any of his operations. . . . The author has had great personal experience, and his opinions are entitled to every respect."—*Observer*.

Horton's Underwood and Woodland Tables.

TABLES FOR PLANTING AND VALUING UNDERWOOD AND WOODLAND; also Lineal, Superficial, Cubical,

Wages, Marketing, and Decimal Tables. Together with Tables for Converting Land-measure from one denomination to another,

and instructions for Measuring Round Timber. By RICHARD HORTON. 12mo. 2s. strongly bound in leather.

Ewart's Land Improvers' Pocket-Book.

THE LAND IMPROVERS' POCKET-BOOK OF FORMULÆ, TABLES, and MEMORANDA, required in any Computation relating to the Permanent Improvement of Landed Property. By JOHN EWART, Land Surveyor and Agricultural Engineer. Royal 32mo, oblong, leather, gilt edges, with elastic band, 4s.

"A compendium long required by land surveyors, agricultural engineers, &c."—*Sussex Daily News*.

"It is admirably calculated to serve the purpose for which it was intended."—*Scotsman*.

"A compendious and handy little volume . . . admirably arranged, and can hardly fail to prove exceedingly useful to the class of professional men for whom it is intended."—*Spectator*.

"Contains in a condensed form the essence of many a treatise, and will be found of much service to the land agent and measurer."—*Newcastle Daily Journal*.

"Is a marvel of industrious compilation, containing everything requisite for computations relating to the permanent improvement of landed property; it is a perfect *vade-mecum* for a surveyor."—*John Bull*.


Hudson's Tables for Land Valuers.

THE LAND VALUER'S BEST ASSISTANT: being Tables, on a very much improved Plan, for Calculating the Value of Estates. To which are added, Tables for reducing Scotch, Irish, and Provincial Customary Acres to Statute Measure; also, Tables of Square Measure, and of the various Dimensions of an Acre in Perches and Yards, by which the Contents of any Plot of Ground may be ascertained without the expense of a regular Survey; &c. By R. HUDSON, C.E. New Edition, royal 32mo. oblong, leather, gilt edges, with elastic band, 4s.

"This new edition includes tables for ascertaining the value of leases for any term of years; and for showing how to lay out plots of ground of certain acres in forms, square, round, &c., with valuable rules for ascertaining the probable worth of standing timber to any amount; and is of incalculable value to the country gentleman and professional man."—*Farmer's Journal*.

Complete Agricultural Surveyors' Pocket-Book.

THE LAND VALUER'S AND LAND IMPROVER'S COMPLETE POCKET-BOOK; consisting of the above two works bound together, leather, gilt edges, with strap, 7s. 6d.

 The above forms an unequalled and most compendious Pocket *Vade-mecum* for the Land Agent and Agricultural Engineer.

"We consider Hudson's book to be the best ready-reckoner on matters relating to the valuation of land and crops we have ever seen, and its combination with Mr. Ewart's work greatly enhances the value and usefulness of the latter-mentioned. . . It is most useful as a manual for reference to those for whom it is intended."—*North of England Farmer*.

Scott Burn's Introduction to Farming.

THE LESSONS OF MY FARM: a Book for Amateur Agriculturists, being an Introduction to Farm Practice, in the Culture of Crops, the Feeding of Cattle, Management of the Dairy, Poultry, and Pigs, and in the Keeping of Farm-work Records. By ROBERT SCOTT BURN. With numerous Illustrations. Fcp. 6s. cloth.

"A most complete introduction to the whole round of farming practice."—*John Bull*.

"A Complete Epitome of the Laws of this Country."

EVERY MAN'S OWN LAWYER; a Handy-Book of the Principles of Law and Equity. By A BARRISTER. 12th Edition, carefully revised, including a Summary of The Building Societies Act, The Infants' Relief Act, The Married Women's Property Act, The Real Property Limitation Act, The Betting Act, The Hosiery Manufacture Act, a Summary of the Supreme Court of Judicature Act, &c., &c. With Notes and References to the Authorities. 12mo, price 6s. 8d. (saved at every consultation), strongly bound.

COMPRISING THE LAWS OF

BANKRUPTCY—BILLS OF EXCHANGE—CONTRACTS AND AGREEMENTS—COPYRIGHT—DOWER AND DIVORCE—ELECTIONS AND REGISTRATION—INSURANCE—LIBEL AND SLANDER—MORTGAGES—SETTLEMENTS—STOCK EXCHANGE PRACTICE—TRADE MARKS AND PATENTS—TRESPASS, NUISANCES, ETC.—TRANSFER OF LAND, ETC.—WARRANTY—WILLS AND AGREEMENTS, ETC. Also Law for Landlord and Tenant—Master and Servant—Workmen and Apprentices—Heirs, Devises, and Legatees—Husband and Wife—Executors and Trustees—Guardian and Ward—Married Women and Infants—Partners and Agents—Lender and Borrower—Debtor and Creditor—Purchaser and Vendor—Companies and Associations—Friendly Societies—Clergymen, Churchwardens—Medical Practitioners, &c.—Bankers—Farmers—Contractors—Stock and Share Brokers—Sportsmen and Gamekeepers—Farriers and Horse-Dealers—Auctioneers, House-Agents—Innkeepers, &c.—Pawnbrokers—Surveyors—Railways and Carriers, &c. &c.

"No Englishman ought to be without this book."—*Engineer*.

"It is a complete code of English Law, written in plain language which all can understand . . . should be in the hands of every business man, and all who wish to abolish lawyers' bills."—*Weekly Times*.

"A useful and concise epitome of the law."—*Law Magazine*.

"What it professes to be—a complete epitome of the laws of this country, thoroughly intelligible to non-professional readers."—*Bell's Life*.

Auctioneer's Assistant.

THE APPRAISER, AUCTIONEER, BROKER, HOUSE AND ESTATE AGENT, AND VALUER'S POCKET ASSISTANT, for the Valuation for Purchase, Sale, or Renewal of Leases, Annuities, and Reversions, and of property generally; with Prices for Inventories, &c. By JOHN WHEELER, Valuer, &c. Third Edition, enlarged, by C. NORRIS. Royal 32mo, cloth, 5s.

"A neat and concise book of reference, containing an admirable and clearly-arranged list of prices for inventories, and a very practical guide to determine the value of furniture, &c."—*Standard*.

Pawnbrokers' Legal Guide.

THE PAWNBROKERS', FACTORS', and MERCHANTS' GUIDE to the LAW of LOANS and PLEDGES. With the Statutes and a Digest of Cases on Rights and Liabilities, Civil and Criminal, as to Loans and Pledges of Goods, Debentures, Mercantile, and other Securities. By H. C. FOLKARD, Esq., of Lincoln's Inn, Barrister-at-Law, Author of the "Law of Slander and Libel," &c. 12mo, cloth boards, price 7s.

The Laws of Mines and Mining Companies.

A PRACTICAL TREATISE on the LAW RELATING to MINES and MINING COMPANIES. By WHITTON ARUNDELL, Attorney-at-Law. Crown 8vo. 4s. cloth.



KD 824 .T37 1875

C.1

Handbook of house property :

Stanford University Libraries



3 6105 040 551 199

DATE DUE

DATE DUE			

STANFORD UNIVERSITY LIBRARIES
STANFORD, CALIFORNIA 94305-6004

